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ROYAL COMMISSION ON MATTERS OF HEALTH AND SAFETY
ARISING FROM THE USE OF ASBESTOS IN ONTARIO

CHAIRMAN: J. STEFAN DUPRE, Ph.D.

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APPEARANCES:

Miss L. Jolley	Ontario Federation of Labour
Mr. R. Evans	Johns-Manville Corporation
Mr. T. Lederer	Government of Ontario

180 Dundas Street
Toronto, Ontario
Tuesday,
August 10, 1982

VOLUME 54



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VOLUME 54

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THE FURTHER PROCEEDINGS OF THIS INQUIRY
RESUMED PURSUANT TO ADJOURNMENT

APPEARANCES AS HERETOFORE NOTED

DR. DUPRE: Well, ladies and gentlemen, good morning.
This morning the Commission greets Mr. Ed Stevens, industrial
hygienist with Manville Canada Incorporated.

Miss Kahn, would you kindly swear in the witness,
please?

EDGAR GARDNER STEVENS, SWORN

EXAMINATION-IN-CHIEF BY MR. LASKIN

DR. DUPRE: Counsel?

MR. LASKIN: Q. Where do you live, Mr. Stevens?

THE WITNESS: A. I live in Scarborough, Ontario.

Q. How long have you resided in Ontario?

A. A little over two years.

Q. And prior to that?

A. I lived in Danville, Quebec.

Q. For some considerable period of time?

A. For approximately twenty years.

Q. What is your occupation?

A. Industrial hygienist.

Q. Specifically, who is your employer?

A. Manville Corporation.

Q. Are you employed by the American parent corporation as opposed to any subsidiary in Canada?

A. That's true.

Q. And are paid by the American corporation?

A. I don't know. It depends on how you look at it.

Q. Do you have a written employment contract that..

A. No, I don't.

Q. So you are on a contract of indefinite hiring?

A. Right.

Q. All right.

For example, does your paycheque...without, not inquiring as to the amount, but does your paycheque come from Manville Corporation or does it come from Manville Canada?

A. It's Manville Canada.

Q. Can you just briefly tell us what your education and your professional qualifications are?

A. I was born in Sherbrooke, Quebec, took my early schooling there and went to Bishop's University where I received a bachelor of science in chemistry and physics.

From there I went to officer's training course, got a commission as second lieutenant and then was discharged to join the working force because of the need for chemists, etc., so I worked for the Defence Industries Limited outside of Valleyfield during the war...or from 1943 to the end of the war.

Q. Then following that?

A. I was...I worked for CIL in Bellisle, Quebec.

A. (cont'd.) There's an explosive plant there.

Q. In what capacity?

A. Laboratory, chief laboratory, superintendent of black powder, TNT manufacturer, non NG explosives, sodium azide, a number of operations.

Q. How long were you employed by CIL?

A. About fifteen years.

Q. That would take us up to ...?

A. About 1960, when I joined Manville.

Q. When you joined Manville, did you join as an industrial hygienist?

A. No. I joined as a chemist in the quality control area.

Q. Where were you physically situated, in Quebec?

A. Yes, Asbestos...working in Asbestos, Quebec.

Q. What responsibilities did you have as a chemist?

A. Quality control responsibilities and development of new products using asbestos.

Q. What does quality control mean?

A. There was a manufacturing plant. It's...quality control means ensuring that the product that is being produced meets recognized standards as far as physical dimensions are concerned, strength. It could get in the chemical end of it so your analysis is...percentage of parts in it are according to specifications.

Q. You worked on the manufacturing side as opposed to the mining side, in Asbestos?

A. That's right.

Q. Did you have anything to do with the mining side of the operation when you were a chemist?

A. No.

Q. How long did you remain a chemist?

A. Until 1969.

Q. Always in Asbestos?

A. Right.

Q. Then in 1969 did you become an industrial hygienist?

A. That's right.

Q. And have remained so ever since?

A. That's right.

Q. Did you have any particular training at that point in time with respect to being an industrial hygienist?

A. Yes. In 1969, I went to Philadelphia and took the U.S. public health course for two weeks, and a number of seminars and things since that time - the stack sampling at Windsor, Ontario.

Q. When you became an industrial hygienist, were you replacing someone else who was stepping down from that position?

A. The chap who previously had the position left the country, yes.

Q. At that time, how many industrial hygienists were there within Johns-Manville?

A. There were two others at that location.

Q. Where were you located?

A. In Asbestos, Quebec.

Q. So there were three industrial hygienists in Asbestos?

A. Right.

Q. What were your responsibilities as an industrial hygienist at Asbestos?

A. We had the responsibilities for all the Johns-Manville operations, plants and mines, in Canada.

Q. Did that include the Scarborough plant here in Ontario?

A. Yes, it included the Scarborough plant.

Q. In terms of your Canada-wide responsibilities, can you just focus in a little more particularly on what sorts of duties you would be carrying out and did carry out?

Can you tell us what you did?

A. Mmm-hmm.

Industrial hygiene surveys, which involve taking asbestos samples for dust, noise evaluation of areas, as well as people - noise exposure of the people themselves, and fume gas - atmospheres in which the workers are working.

Q. To whom were you reporting in 1969, when you became an industrial hygienist?

A. To Mr. Scheckler.

Q. To Mr....?

A. Scheckler. (ph.)

Q. Can you spell that for the reporter?

A. No.

Q. No? All right.

A. I think it's S C H E L...

MR. EVANS: For the record, let me volunteer, it's S H E C K L E R.

MR. LASKIN: Thank you, Mr. Evans.

MR. LASKIN: Q. Who was Mr. Sheckler?

THE WITNESS: A. He was located in Manville, New Jersey. He was the manager of occupational health for the company.

Q. For the entire company?

A. Right.

Q. But he was located in New Jersey?

A. Right.

Q. Do you report directly to him?

A. I did. He is no longer with the company and was only there for a few months.

Q. What happened after he left? Whom did you report to after that?

A. George Swallow, who occupied the same position.

Q. Manager of occupational health?

A. Right.

Q. How long did you report to Mr. Wall?

A. Swallow.

Q. Swallow? I'm sorry. Mr. Swallow. How long did you report to Mr. Swallow?

A. From 1969 to date.

Q. You continue to report to Mr. Swallow?

A. Right.

Q. Where is he located?

A. In Denver.

Q. There is an organization chart which is off to your left. Can you help us and identify where on that chart we might find Mr. Swallow?

A. Senior vice-president, which would be down here and over here. Is that fair enough?

Q. No, that's fine.

A. He would be two places...

Q. Just recalling that we had a breakdown at one stage, of health, safety and environment department, which I know is marked as an exhibit of Dr. Kotin.

Does Mr. Swallow in turn report to Dr. Kotin, or did he report to Dr. Kotin when Dr. Kotin was in that position?

A. No.

Q. No?

A. He reports to

5 Q. Actually, Mr. Stevens, the organization chart of health, safety and environment...is Mr. Swallow on that organization chart by position?

A. Yes, by position he would be right here - industrial hygiene.

DR. DUPRE: And reporting to the chief environmental scientist?

10 THE WITNESS: That's right, yes.

DR. DUPRE: To the senior vice-president.

MR. LASKIN: Q. In your capacity as industrial hygienist, do you continue to have responsibilities throughout Canada?

15 THE WITNESS: A. Yes.

Q. I take it at some stage along the road a couple of years ago, you changed residence?

A. Yes.

Q. Was there...what was the reason for that?

A. Set up a new laboratory in Toronto plant.

Q. You were responsible for doing that?

20 A. That's right.

Q. Has that occupied most of your time since you came here?

A. Yes. I still have responsibility for the...we have a laboratory in Jeffrey Mine, or in Asbestos, Quebec, so I'm in charge of both laboratories.

25 Q. Is that basically your spheres of responsibility right now?

A. Right.

DR. DUPRE: Just to make sure I understand one point, Mr. Steven, you once were in charge of the industrial lab that was located in Quebec?

30 THE WITNESS: Right.

DR. DUPRE: When you moved to Toronto, a lab was created here?

THE WITNESS: Correct.

DR. DUPRE: But the lab in Quebec continued to exist?

THE WITNESS: That's right.

DR. DUPRE: And you, basically, are in charge of both labs?

THE WITNESS: That's right.

MR. LASKIN: Q. And you've told us that you report to Mr. Swallow. Do you have any reporting obligation to any of the local officials of Johns-Manville here in Canada?

THE WITNESS: A. Well, I'm not too sure by what you mean by responsibility.

Q. I take it you consider you have some responsibility to report to Mr. Swallow...

A. That's correct.

Q. ...whatever you do, I take it you advise him as to what you have done and presumably make recommendations from time to time?

A. Right.

Q. Do you have any similar lines of communication with any of the local officials, officers of Johns-Manville, plant managers, supervisors here in Canada?

A. Yes, but not...a dotted line rather than a straight line, shall we say. Yes.

Is that what you are after?

Q. Yes.

Can you elaborate on that a little bit and tell us what the nature of your relationship is with local corporate officials here?

A. It's varied, but it's to deal with the fields

5 A. (cont'd.) of industrial hygiene, of operator exposure, health rules, this type of thing in that field. If they want information, sometimes I can obtain it for them.

Is this what you are after?

Q. Who is the...if we take by way of example the Scarborough plant...who is your contact person at the Scarborough plant with whom you would have communication?

10 A. The manager.

Q. The plant manager?

A. Right, the plant manager.

Q. Has that always been the case?

A. It's the plant manager or the employee relations manager, one or the other.

15 Q. I'll get more specific, to dealing with plants, but when Mr. Machin was here and gave evidence, my recollection is that he indicated that generally speaking the person in your position would have something called an exit interview?

A. That's correct.

20 Q. That is, you would go into a plant and when you left the plant you would sit down with the plant manager?

A. That's right.

Q. Is that in fact the way in which you do have lines of communication with, say, this plant?

A. Yes, that is the way.

25 Q. Can we perhaps become a little more specific, and I just want to discuss with you in your capacity as industrial hygienist what you have done in relation to the Scarborough plant from 1969 forward, and can I ask you first of all, have you been charged with taking dust measurements in that plant?

A. Yes, we have taken dust measurements.

30 Q. You personally, or your team?

A. Both. I was not always present during the survey.

5 Q. What was the purpose of you, as a company industrial hygienist, taking these dust measurements?

A. The purposes of taking the measurements are really twofold. One is to evaluate dust control and the other one is to evaluate operator or personnel exposure.

10 Q. With what frequency were you taking these measurements?

A. Two or three times a year.

Q. Was that a decision made by you, or did that come from Mr. Swallow?

15 A. That's pretty well a laid-down policy for asbestos, that they be done...

Q. Corporate policy?

A. Corporate policy, twice a year and sometimes we increase that if the plant was making some changes and wanted additional evaluations.

20 Q. Was that the only reason that you would go into a plant to do these twice-yearly inspections, or would you go into the plant for other reasons?

25 A. That's the principal reason. There were...we also carried out some safety evaluations in the plant. We also did some, well...gathered some information, probably, more than doing any particular work, as to problems in the community or any problems that they had had with the community.

30 Q. All right. Let's just take a particular time that you might go into the plant and have gone into the plant, and let me ask you first of all, would the plant manager know in advance that you were coming to do this inspection?

A. Yes, we had an annual schedule that was followed.

Q. Would it be known by the local plant in advance?

A. Yes.

Q. Would the provincial government, would the Ministry of Labour know as well that you were coming in to do your inspection? Would there be any communication there?

A. Not directly. Frequently they did.

Q. How would they find out?

A. We would tell them.

Q. In advance or after the fact?

A. No, no. In advance - particularly if we wanted to do some work in relationship with them.

Q. All right. What sort of work might you be doing in relationship with the Ministry of Labour?

A. Side-by-side evaluation, this type of thing.

Q. How often has that happened in the thirteen years since you have been a hygienist?

A. Five, six times.

Q. What would prompt this side-by-side evaluation?

A. A combination of things, I suppose. Mostly new methods that were introduced, a new method in 1969.

Q. A new method of...?

A. Evaluating asbestos fiber.

Q. Measuring it?

A. Right. Membrane filter method came in in 1969.

Q. Did that...that was one of the occasions that prompted a side-by-side evaluation?

A. Right, to see how...not how, but data...similar data would be obtained from the two laboratories, yes.

Q. Was it Mr. Rajhans who you were dealing with within the Ministry of Labour?

A. No.

Q. Do you recall who it was?

A. Mr. Nelson.

Q. Mr. Nelson? Okay.

I take it you did carry out this side-by-side measurement?

A. Yes.

Q. Just for 1969, at that point?

A. No, different times, and have dealt with Mr. Rajhans latterly, but both with Mr. Nelson and Mr. Rajhans.

Q. Do you, yourself, or do your files still have the results of those side-by-side evaluations?

A. We would have our results, yes.

Q. Would you have the ministry's companion results?

A. Some of them. I don't think we have them all. We have some of them.

Q. Would it be difficult to get those...and I'm not asking for them right now...but could you make those available to the Commission if we wanted to see them?

A. This is something that's out of my hands, as to what is available and what is not available to the Commission.

Q. All right.

A. But as far as I know, most things have been made available to the Commission, that they have asked for.

Q. No question about that. All right.

DR. DUPRE: Could I just ask you, to briefly describe for me what was going on in the side-by-side evaluations?

I take it that the context in time is the context in which there was a shift from the midget impinger to the membrane filter method, is that correct?

THE WITNESS: Correct.

DR. DUPRE: Did the side-by-side evaluations involve each of the ministry and the company themselves collecting samples through the midget impinger, but different samples...one or several, Ministry of Labour; one or several, company...then one

5 DR. DUPRE:(cont'd.) or several membrane filter samples - some Ministry of Labour and some company? Is this what was going on, that there were separate samples being collected, or...

THE WITNESS: That's right.

DR. DUPRE: That's what was going on?

THE WITNESS: Separate samples were being collected.

10 DR. DUPRE: Separate samples.

And then in terms of examining the samples, was the Ministry of Labour only examining its own samples in terms of fiber counts, and you examined yours? Or did you also cross over...in other words, give each other both of the samples involved and come up with your own readings and then compare notes?

15 THE WITNESS: That's right. We crossed over as well.

MR. LASKIN: Q. Can you recall at that point in time generally how your results compared?

THE WITNESS: A. That's a long time ago.

20 Q. I appreciate that. Does anything stick out in your mind as to whether they were wildly divergent from the ministry, or whether they seemed to be consistent?

A. I think we had a variety of results, some of which were very close and some of which were quite different.

25 Q. When the results were quite different, was there any attempt to sit down with the ministry people and try to reconcile the differences or correlate what happened? Did that sort of meeting take place?

A. We've had those sorts of correspondence, yes, and meetings as well.

30 Q. What other reasons prompted your side-by-side evaluations over time? You've told us about the introduction of the membrane filter method. What else would prompt you to do

Q. (cont'd.) side-by-side comparisons with the ministry?

A. We have...sometimes if the results in the same location were not the same, they were carrying out...the government was carrying out...surveys in the plant as well as we were, and sometimes these were not too...in certain areas if they were not identical, or close to being similar, we would try and find out what was wrong.

Q. I take it that you routinely send your sampling results to the ministry?

A. No. They went to the plant. There was a...they were sent to the plant.

Q. Okay. And...

A. Yes, we sent them to the plant.

DR. DUPRE: They would be sent to the plant directly by you, and not through the industrial hygiene division in Denver?

THE WITNESS: Well, through industrial hygiene division in Denver, yes.

DR. DUPRE: So basically your own role was to communicate your results direct to Denver, and...

THE WITNESS: That's right.

MR. LASKIN: Q. Period? You didn't send them anywhere else yourself?

THE WITNESS: A. That is probably not true entirely. Certainly if we had areas where we found higher-than-normal results, this type of thing, we would contact the plant immediately to make them aware of the problem.

Q. And not wait for...

A. Not wait for...this is true.

Q. ...Denver to contact the plant?

A. That's right.

Q. Whether the results got to the Ministry of

Q. (cont'd.) Labour, whose decision would that be? Would that be Mr. Swallow's decision, or his department, in Denver?

A. No, that was the local plant manager's decision.

Q. The local plant manager, except in those instances where you would be contacting him right away to alert him to a problem, would be getting his results from Mr. Swallow and his department?

A. That's right.

Q. Can I just...I just want to make sure I understand the process of going in there. You go in there and you take your measurements. At what point in time do you have your exit interview with the plant manager or the employee relations manager?

A. When the survey is finished, which is around the time...maybe a week to ten days after starting.

Q. Before or after you have sent your results off to Denver?

A. Many of the results we would...many of the results we wouldn't know at that particular time those samples have been taken. It would be a visual observation, this type of thing.

Q. So you wouldn't actually have more of your measurement data at the time you conduct this exit interview?

A. That's right.

Q. What, then, is the purpose of the exit interview? What do you discuss with the plant manager?

A. Those results that we do have, and from being in his plant for a week to ten days, just general observations of conditions - have they improved from previous survey, where they have improved or appear to have been improved.

Q. Do you advise on improving engineering or environmental controls within the plant? Do you give that kind of

Q. (cont'd.) recommendation in these meetings?

A. Possibly advise that something should be done,
5 is this what you mean?

Q. Yes.

A. Not as...in most cases, not specific recommendations,
no.

Q. You would simply say - there's a problem,
something should be done about the problem?

10 A. 'There appears to be a problem.' Somebody
might...we would suggest that he get somebody expert in that
field to go in and look at it.

Q. So do I put it fairly, Mr. Stevens, to say
that what you are essentially doing is trying to identify what
15 appear to be problems within the plant, to the plant manager?

A. This is true.

Q. Do you ever get into the business of suggesting
specific capital expenditures to make on new dust control
equipment, or things like that?

20 A. We get into suggesting, sometimes, things that
we have seen have handled problems in other plants. This is...
that he might look into or check in with another plant to see how
they handled that problem.

DR. DUPRE: Just on that point, Mr. Stevens, a major
firm in the industry with as many plants as J-M has had would,
25 of course, have had a wealth of experience in this domain.

THE WITNESS: Right.

DR. DUPRE: Could you tell us a bit about how the
corporate wealth of experience was made available for you as an
industrial hygienist with responsibilities in Quebec and in
Ontario?

30 Did you go regularly to Denver, for example, to
be briefed on corporate-wide developments, or would you instead

5 DR. DUPRE: (cont'd.) receive information from headquarters concerning new techniques as they develop, so on and so forth?

THE WITNESS: We had a, generally, at least an annual meeting where new programs, this type of thing, was carried on, as well as correspondence back and forth, keeping in touch and ...

10 DR. DUPRE: So all of the industrial hygienists with responsibilities in different parts of the world would be brought together at company headquarters for an annual meeting and this kind of information would be disseminated?

THE WITNESS: That's true.

15 MR. LASKIN: Q. I take it at some...just coming back to your discussions of your investigation of a particular plant and your inspection of it...at some stage along the line would you prepare a written report for Mr. Swallow?

THE WITNESS: A. Yes.

Q. When would that happen?

A. When we had all the results available. When we had all the analytical results.

20 Q. Would that report include any recommendations as to improvements in a particular plant?

A. Yes, it could.

Q. Would it...

A. In a broad sense, yes.

25 Q. Could it include recommendations that there should be a particular expenditure made on a new piece of equipment?

30 A. Generally not get into the expenditure. We are interested in reducing the dust levels, so that how you do it specifically was more left up to the plant, you know, except for the odd suggestion we put in.

Q. Basically that was outside your bailiwick?

A. Basically, yes.

5 Q. In the report that you prepared...would the plant manager get a copy of that report?

A. Yes.

Q. From you?

A. No, it goes through Denver.

10 Q. What, in your own mind, is the rationale for your reporting directly to Denver, and I take it Denver communicating back to the plant manager?

In other words, what, in your own mind, is the rationale for not directly reporting to the plant manager?

15 A. One of the main things is to be free of plant managers saying 'don't sample here today, sample there tomorrow, or this is a good day to sample here', or this type of thing. To be free to do industrial hygiene work the way you see it should be done. That's the basic reason for doing it.

20 Q. Do you know whether the measurements that you took in the plant were used at all for the company's insurance purposes?

A. No, I don't.

Q. You, I take it, wouldn't send a copy of your measurements to Johns-Manville insurers?

A. No.

25 Q. Do you know whether anyone else would? Do you know whether that was a request or demand of an insurance company?

A. Never heard of it.

Q. You never heard of it?

DR. DUPRE: Were you aware at any time of hygienists retained by insurance companies taking samples in the plants?

THE WITNESS: Not during my time, still.

30 DR. DUPRE: And not during the time when the conversion from the midget impinger to the membrane filter method

DR. DUPRE: (cont'd.) took place?

THE WITNESS: No.

5 MR. LASKIN: Q. When you got back all of the measurements and prepared your report to Mr. Swallow, would you by that time...you would, by that time, have had your exit interview, I take it, with the plant manager?

THE WITNESS: That's correct.

10 Q. Would you, in light now of all the measurement data, have a further interview?

A. Basically no, because it's only been...only the last two years have I been in Toronto, so it's hard to do it from Jeffrey to Toronto, to come up just to talk about it.

Q. I see.

15 A. But there's probably one thing that you should know, that before we start, we also have an entrance interview where we discuss past things and are made aware of changes that have gone on in the plant.

Q. The plant manager makes you aware of that?

A. This is right.

20 Q. Now, when you were operating out of Quebec, but coming into Ontario for these inspections, were you made aware of the regulatory guidelines for asbestos control in Ontario?

A. Yes.

Q. How did you...how were you made aware of that?

25 A. Word of mouth, mostly.

Q. What was your understanding from 1969 forward, as to the standard in Ontario?

A. Mostly in...certainly in 1969 and for several years, they were running at five million particles.

30 Q. And were you made aware of the changeover to a fiber-per-cubic-centimeter guidelines?

A. Yes, sir. Verbally. Possibly verbally. I don't

A. (cont'd.) think I have ever seen anything in writing.

Q. Do you know what it was and when it came in?

A. As far as I know, they were using five fibers per c.c. early in the seventies.

Q. How long did that continue, do you know?

A. They have had other guidelines or proposed guidelines that were changed to lower the guidelines.

Q. Do you know what they were and when?

A. I don't know precisely when they were, no.

Q. Did you ever hear...

A. In the mid-seventies sometime. I don't know precisely when.

DR. DUPRE: Mr. Stevens, I just wonder if I can make sure that I understand what is being communicated here.

Can I take it from what you say that as the industrial hygienist for J-M in this jurisdiction you do not recall ever having been officially informed in writing, by an agency of the government of Ontario, of what either the prevailing guideline or standard might be, and that similarly you do not recall ever being informed in writing of any proposed changes in the guideline, or of any proposed official change in moving from the particle count to the fiber count? That this, to the best of your recollection, is simply something that would have been communicated to you orally?

THE WITNESS: Oh, no. Proposals, yes, but we had very little on paper of 'this was the guideline'. These are proposed guidelines.

DR. DUPRE: You would get in writing information from the government as to what the proposed guidelines might be?

THE WITNESS: Right. Mmm-hmm.

DR. DUPRE: But you do not recall having in writing

DR. DUPRE: (con't.d) what the actual guidelines, at any point in time, were?

5 THE WITNESS: Initially they were, yes. I knew what they were. They were five.

DR. DUPRE: But you had been informed of this in writing?

10 THE WITNESS: Maybe not directly, no, but through the plant...the ministry would advise the plant what they were and I would pick it up when I went there.

15 DR. DUPRE: I see. So the, again, as you reconstruct your experience here, the line of communications where government/industry interface was concerned would run from the government of Ontario, the ministry involved, the Ministry of Labour, to presumably the plant manager?

THE WITNESS: This is right. Mmm-hmm.

20 DR. DUPRE: And then presumably it would be, for example, at the time of an entrance interview that the plant manager would be able to communicate to you what the situation was in this jurisdiction?

THE WITNESS: This is true.

25 DR. DUPRE: Can I just ask basically if you found that there was a parallel situation in Quebec, you would go in for, for example, your entrance interview there and what would be communicated to you by the plant manager involved would be the prevailing guideline, if any, that the government of Quebec had...

THE WITNESS: Yes...other than the fact that we were...this is basically true, yes. We were knowledgeable, because of living in Quebec, of what the guidelines were.

DR. DUPRE: Now...

THE WITNESS: At that particular talk.

30 DR. DUPRE: ...would I be correct in understanding that J-M itself...I'm talking about the world corporation...would

5 DR. DUPRE: (cont'd.) have guidelines of its own, based on its own policies which have been described to us by Mr. Cashman and Mr. Machin?

THE WITNESS: Yes.

DR. DUPRE: Thank you, counsel.

MR. LASKIN: Thank you, Mr. Chairman.

10 MR. LASKIN: Q. Were you, Mr. Stevens, aware that in the Scarborough plant, as to the types of fiber that were being used?

THE WITNESS: A. Yes.

Q. And what was your understanding?

A. I knew they had proposed reduced TLV's, if you want, or guidelines for crocidolite.

15 Q. No, but were you aware as to what fibers actually your company was using in the Scarborough plant? Were you aware..

A. Oh, yes.

20 Q. What was your understanding as to what was being used from the period 1969 through to 1980?

A. The basic fiber used was chrysotile, crocidolite was used to a lesser extent, and those were the basic fibers that were used.

25 Q. In terms of regulation by the government and guidelines by the government, did you have any understanding as to whether the government tried to differentiate between its guideline for crocidolite as opposed to chrysotile?

A. Latterly, yes. In the last few years they have.

Q. What are we talking about when you say the last few years? Are you talking about the proposed guideline that...

30 A. That came in about...1968, is it? I'm sorry, 1978? 1978.

Q. Did you ever hear about a guideline for

Q. (cont'd.) crocidolite of point two, as proposed in 1976? Does that ring a...

A. Yes, as proposed.

Q. How did you hear about that?

A. The way the Chairman is talking about it. It's communicated to the plant, and when I go into a plant we hear about it.

Q. Well, was your understanding that there was a guideline in Ontario in 1976 for crocidolite of point two fibers per cubic centimeter?

A. There was a proposed guideline, yes.

Q. What do you mean by proposed guideline? You used that term a number of times.

A. Somebody has proposed a guideline.

Q. Well, when you use that term is it your understanding that it's a guideline to be followed?

A. It's a guideline to be strived for, in my interpretation of something that is proposed.

If you want, I can give you an example.

Q. Sure.

A. OSHA, way back when, proposed that we reduce from five to two fibers, but it didn't take effect. It was a proposal.

Some time in some future date it did become in fact the TLV, but prior to that it is proposed.

When one sees it on an official document, then one knows that it is either proposed or it is the guideline being used, or is it the guideline being used as a laboratory or is it the government policy? It's very difficult to know this.

Q. Do you know whether Ontario had an actual guideline for crocidolite at point two fibers per c.c., from 1976 forward?

A. No, I don't. I know they had a proposed guideline. I'm not aware that it was ever official.

5 Q. What is your understanding as to whether Ontario had any actual guidelines during the period that you have been an industrial hygienist? I just want to make sure I understand your evidence.

10 A. My understanding is they had a guideline of five, which I think they classified as a TLV. From then I think they changed their philosophy, as far as I'm concerned, and went out of TLV's into guidelines.

Q. Actual?

A. You are asking what I...

Q. I'm asking what your understanding is.

15 A. That's what my understanding was.

Q. That they went into the business of actual guidelines?

A. Yes. Proposed guidelines and guidelines, yes.

Q. What was your understanding as to the actual guideline in force in Ontario from 1976?

20 A. It was two fibers per c.c.

Q. And do you know when that guideline came into effect did anybody...did you receive that communication from anyone?

25 A. No, I can't recall ever receiving it in written form.

30 Q. Given the fact that crocidolite was used in the Scarborough plant, did that in any way affect the way in which you looked at the plant from an inspection point of view? In other words, did you look at the plant differently, look at a plant differently that was using crocidolite as opposed to the plant that was using only chrysotile?

A. Look at it? No. Sample it, possibly yes.

5 Q. But for example, would that cause you, would the presence of crocidolite cause you to carry on your exit interview with the plant manager along different lines? Would it promote different suggestions for control?

A. No. But because of their proposal, we did take special samples in order to be able to try to evaluate the percentages of crocidolite.

10 Q. Because of the government's proposal?

A. Right. And to have, to be able to know where we were.

Q. Okay. What kind of special samples did you take, and when?

15 A. We would take samples where we had...where we had noted the formulation being used, and then go down the line and sample them.

In other words, where you make...when you make your formula, we would take note of it, sample there and then follow that product down to where it was further machined, in most cases, in the Toronto plant. So we knew what we had started with.

20 Q. You knew the proportions?

A. Right.

Q. And you would try to follow that all the way down the line?

25 A. Not all the way down the line, but would follow it in different operations, yes, down the line.

Q. And how would you...just help me on this, because I'm a layman in your field...how would you relate the proportions that you had to the measurements that you took?

30 A. Well, do you want to go back a step? I don't think you'll find it...it depends on what kind of pipe you are using whether you are using a mixture or not.

Q. Okay. So let's assume we are talking about

Q. (cont'd.) A-C pipe.

A. Okay. A-C pipe...you are talking about pressure pipe or sewer pipe or something like this?

Q. Well, which is the one that has the mixture?

A. The pressure pipe.

Q. All right. So let's talk about pressure pipe.

A. Okay.

Q. Was there a reasonably consistent formula as to the number of parts crocidolite and the number of parts chrysotile?

A. I don't recall, as a matter of fact.

Q. I think we've had some evidence previously that suggested one part crocidolite to seven parts chrysotile, if I'm not mistaken. Does that ring a bell?

A. You are talking about formulations now?

Q. Yes.

A. It could be in that neighborhood.

Q. In any event, having got the formulation and having taken the measurement, what did you do to correlate the two?

A. This work was not done by us. We sent it down to our Denver laboratory to do it.

Q. What kind of result would you get? Would you get the result back?

A. Yes.

Q. What would it show, generally speaking? What would the Denver lab do for you?

A. They had electron microscope, they would be able to evaluate the different types of asbestos in it.

MR. LASKIN: Dr. Uffen?

DR. UFFEN: Does your lab, in the present one and the previous one, did you have an electron microscope?

THE WITNESS: No.

DR. UFFEN: No? X-ray equipment?

THE WITNESS: No.

DR. UFFEN: Just the membrane filter and optical microscope?

THE WITNESS: Yes, just optical microscope.

DR. UFFEN: So whenever you had to make an identification, it would have to go someplace else where they had the equipment then?

THE WITNESS: To deal with it. This is true.

DR. DUPRE: The electron microscopy equipment would have been available in Denver?

THE WITNESS: That's right.

DR. DUPRE: And would you forward samples there regularly for electron microscopy?

THE WITNESS: Right.

DR. DUPRE: Then the results of the electron microscopy would be forwarded back to you from Denver?

THE WITNESS: Yes, sometimes. Generally, yes.

DR. DUPRE: Were the...were such results, which would be communicated back to you from Denver, ever in turn transmitted by you to the ministry officials in Ontario?

THE WITNESS: Not by me, no.

DR. UFFEN: It may be just a little diversion, but for my own information could you give me a little bit of an idea of the size and scope of your laboratory - the one in Quebec first and the one here? Roughly how many professionals in the lab, and how many support technicians? Are we talking about perhaps ten or...?

THE WITNESS: No, no. We are talking...you mentioned earlier, there were three or four people in the Asbestos laboratory.

DR. UFFEN: In Asbestos, Quebec?

THE WITNESS: Right.

DR. DUPRE: In the Jeffrey lab?

THE WITNESS: Right.

DR. UFFEN: Of the three or four, how many of them would be professionals - either chemists or engineers or hygienists? Or any...

THE WITNESS: We may have one who was not. We had one person who was not.

DR. UFFEN: Would that person have been a technician?

THE WITNESS: Right..a trained technician...someone who we had trained.

DR. UFFEN: And the laboratory that you are supervising in Ontario, is it similar in size and scope?

THE WITNESS: Yes.

DR. UFFEN: Just as a key that would indicate to me, how many optical microscopes would you have for the observation of the membrane filter technique?

THE WITNESS: Two microscopes in the Jeffrey lab and one microscope in the Toronto lab.

DR. UFFEN: That gives me an idea of the size and scope of the operation. Would it be fair to say it's not comparable with the government laboratories here in Toronto, which have electron microscopes and a larger facility than you have?

THE WITNESS: I think the last I heard, they had one microscope.

DR. UFFEN: One electron microscope?

THE WITNESS: No, one optical microscope.

DR. UFFEN: With one or two microscopes and one technician, how long does it take to do an analysis of the data that you collected in the plant?

THE WITNESS: You can probably run...it's not unusual

THE WITNESS: (cont'd.) to run sixteen samples
a day.

DR. UFFEN: Thank you.

MR. LASKIN: Thanks, Dr. Uffen.

MR. LASKIN: Q. I take it, Mr. Stevens, just to
come back to these special samples which you sent down to Denver
for electron microscopy, what you would get back, what would be
produced would be some analysis as to how much crocidolite there
was and how much chrysotile there was in the sample collected?

THE WITNESS: A. That's right.

Q. Did I understand you correctly that those
results didn't come back to you?

A. I would get a copy of those results, yes.

Q. Who would they be sent to? The plant manager?

A. They would be sent out of our research
department to HS and E department.

Q. Did anything come back to the plant manager?

A. Yes. Then they would be sent back to the plant
managers.

Q. Again, would it be the plant manager's
determination as to whether to send those results on to the
Ministry of Labour?

A. Yes. And from my knowledge, and from talking
with government hygienists, etc., they've got most of the
information that we have had.

In other words, any information that the plants had,
as far as I know the government has.

Q. I think you also said, in coming back to this
question of meeting standards or guidelines, but as I recall your
evidence in response to a question from the chairman, you
indicated that your company as well had its own policy with
respect to meeting particular standards?

A. That's true.

Q. What was that policy?

A. We followed the OSHA standards, except where... areas where the province or someone else had a lower standard.

Q. And that policy, I take it, was communicated to you?

A. Right.

Q. Okay. How? By written directive?

A. Yes, I would say...I can't recall ever seeing a letter, but it's a firm policy that you use OSHA standards except in those areas where the local conditions have a tighter standard than those.

Q. Okay.

How were you made aware, sitting in Quebec, as to what OSHA's standards were?

A. Communication.

Q. From Denver?

A. From Denver.

Q. Which would be in writing, I take it?

A. Right.

DR. UFFEN: Mr. Laskin, could I ask a question?

MR. LASKIN: Sure, Dr. Uffen.

DR. UFFEN: Is there an association of industrial hygienists, the same as there is an association of other professional groups?

THE WITNESS: Yes.

DR. UFFEN: Do you belong to them?

THE WITNESS: Yes.

DR. UFFEN: Do you have regular publications that are circulated - either scientific or news publications?

THE WITNESS: Yes.

DR. UFFEN: Would this kind of information be in your

DR. UFFEN: (cont'd.) professional journals and publications?

THE WITNESS: Yes.

I'm sorry. What are we talking about now? What information?

DR. DUPRE: Information of prevailing OSHA guidelines.

DR. UFFEN: About the changes in the OSHA guidelines or developments that might be taking place in Europe with respect to industrial hygiene in other parts of the world.

THE WITNESS: Yes, in some of the publications. But many the publications or the main publications are just papers that people have prepared and so on.

DR. UFFEN: What's the name of your own particular professional association? Or is there more than one?

THE WITNESS: Well, really, I belong to the American Council of Governmental Industrial Hygienists.

DR. UFFEN: American Conference of Industrial...

THE WITNESS: ...Hygienists.

DR. UFFEN: Hygienists.

THE WITNESS: ACIGH.

DR. UFFEN: Okay.

THE WITNESS: These are the people who...

DR. DUPRE: The American Council of Industrial and Governmental Hygienists?

THE WITNESS: Of Governmental Industrial Hygienists.

DR. UFFEN: We've heard of that. Okay.

MR. LASKIN: Q. That's the body that's generally been responsible, over time, for promulgating this list of threshold limit values?

THE WITNESS: A. This is true, yes.

DR. UFFEN: Excuse me, while I think of it. How

5 DR. UFFEN: (cont'd.) long have you belonged to this particular professional association? Since you became an industrial hygienist?

THE WITNESS: About ten years.

MR. LASKIN: Q. Have you yourself had any input into any of those threshold limit values promulgated by the ACGIH?

10 THE WITNESS: A. None promulgated by them, no. The federal government yes. But not...

DR. DUPRE: Can I ask you what the qualifications for membership in that association are? Is it that the individual be employed as either a governmental or an industrial hygienist?

15 THE WITNESS: That's right. Part of it is a question of are you employed, you know, ten percent of the time...I think the criteria is something like this...where you are spending the majority of your time doing industrial hygiene work.

DR. DUPRE: The basic criterion for membership though is the capacity in which you are employed, as opposed to any particular set of professional qualifications?

20 THE WITNESS: Yes, that's true.

MR. LASKIN: Q. I think you just mentioned that you have had some input into discussion of standards or limit values at the federal level?

THE WITNESS: A. Yes.

Q. Canadian or American?

25 A. Canadian.

Q. What connection was that?

30 A. Emission to the atmosphere of two fibers per c.c. I was a member of the subcommittee who did the industrial hygiene work in relationship with federal government hygienists, provincial government hygienists in Quebec, B.C. and Ontario.

Q. Was that recently or some time ago?

A. 1974, 1975.

5 DR. DUPRE: What agency of the federal government was involved in this?

THE WITNESS: The Ministry of the Environment.

DR. UFFEN: Did you ever participate on the National Research Council's study of criteria, environmental criteria...which they had one special study on asbestos...were you involved in that one?

10 THE WITNESS: There was a major group who then formed out of that, a minor group of industrial hygienists who were doing...who had input to that...I think it was that committee. If I recall, the committee was made up of the Minister of the Environment and also the Minister of Natural Resources, as a combined ministry.

15 DR. UFFEN: Did you play a role in helping to put the material together?

THE WITNESS: Right. Yes.

20 MR. LASKIN: Q. Can I ask you whether you ever had any occasion to do any industrial hygiene work in connection with any epidemiological studies?

THE WITNESS: A. Not to my knowledge.

Q. Have you ever had occasion to review any of the industrial hygiene work that has been done in connection with published epidemiological studies?

25 A. Yes. I have read papers, I have...yes.

Q. Can I try to draw a little on your professional experience and your judgement in this area, and just ask you to tell me whether you might have considered these studies? One that comes to mind is Professor Dement's recent study of the textile plant in Carolina.

30 A. Right.

Q. Have you had occasion to look at that study?

A. No.

5 Q. I asked you because I understand he is an industrial hygienist himself.

A. Right. I have not, in depth, looked at that. No.

10 DR. DUPRE: Did you have occasion to examine the studies that Graham Gibbs did, particularly with respect to converting from the midget impinger to the membrane filter counts in the lead plants?

THE WITNESS: Yes. I have worked with Graham for a number of years.

DR. DUPRE: Oh, so Dr. Gibbs was actively consulting you throughout the period that he was doing this study?

THE WITNESS: Right.

15 MR. LASKIN: Q. Have you, bearing in mind your work in that area and your experience in the field, did you come to any judgement as to the utility of doing that kind of conversion?

THE WITNESS: A. I could see the desirability of someone knowing the relationship of one method to another method.

20 Q. How about the accuracy of it?

A. But some of the work that I have done would indicate to me that if you take an area, there is a relationship. But if you move to another area, there is another relationship there. There is not a common relationship. You have two different methods which are giving you different things...basically particle size is one of the problems.

25 Q. Particle size?

A. Right.

Q. Would affect the relationships that you may have from one area to another?

A. That's right.

30 Q. Are there any other sort of current epidemiological studies that come to mind that you have reviewed in any detail?

5 Q. (cont'd.) For example, have you looked at Corbett McDonald's study from an industrial hygiene point of view?

A. Right.

Q. Did you have any involvement in that study?

A. He was dealing mostly with midget impinger results.

10 We had some involvement probably early on in the sixties and seventies, and Graham got the...Dr. Gibbs got the results of these, but then we swung over to midget impinger and they were...they would have preferred if we had had more midget impinger results, instead of going to the fiber, because they had started on their...started their work on midget impinger results.

15 Q. Okay. Have you had any involvement in any of the United States studies involving any of Johns-Manville's plants, from an industrial hygiene point of view?

A. No, I have never taken samples or done any analytical work of samples taken in the States.

20 Q. Do you have any judgement as to the quality of the industrial hygiene work in Corbett McDonald's study? Were you able to come to any assessment as to how good it was?

A. I knew the chap who had done work for the QAMA, who had done an awful lot of the midget impinger work for him for a number of years.

25 DR. DUPRE Is this Mr. LeChance?

THE WITNESS: Yes.

And I have worked with him, and he was certainly, in my judgement, a competent industrial hygienist.

30 DR. UFFEN: Did your laboratories participate in the interlaboratory calibration experiment that was carried out about seven or eight years ago? I have forgotten the actual date, but were you one of the labs that participated?

5 THE WITNESS: Yes. Oh, the McGill study are you talking about? We have done so much of this I'm not too sure which one we are talking about.

DR. UFFEN: I'm in the same boat. I'm trying to remember testimony from last summer when we had a description of the exchange of material, and I can't remember exactly who it was now. But your lab did participate in at least one?

10 THE WITNESS: Yes. McGill laboratory had one that was going on. We participated. The AIA had one which we participated in.

DR. UFFEN: I think it's the AIA that I'm thinking about, because we spent a couple of hours talking about it at one time.

15 THE WITNESS: Okay, yes. We participated in it.

DR. UFFEN: Do you remember how your laboratory fared relative to the others, in that intercalibration test?

THE WITNESS: I personally have never seen the results from that.

20 DR. UFFEN: Oh, all right.

MR. LASKIN: Q. Can I come back to the Scarborough plant just for a few final questions? I take it you basically looked at that plant from, in your personal experience, from 1969 until...from an asbestos point of view...until the transite pipe section closed?

25 THE WITNESS: A. Right.

Q. Did you have any familiarity with the conditions in the plant prior to 1969?

A. Not from an industrial hygienist point of view, no.

30 Q. Would you have had occasion, for example, to have reviewed any measurement data, dust data, that might have existed in those prior years? Or did you start fresh in 1969?

5 A. Pretty well started fresh in 1969, for the simple reason that that was the time when we changed from one method to another method, and as we have said, it's difficult to relate one method to another method.

Q. Your whole experience, I take it, has been with the membrane filter method?

10 A. I have done very little...I have done some, but very little, in midget impinger sampling.

DR. UFFEN: Have you done most of the actual membrane filter analyses yourself, or have you had a technician who did it for you?

THE WITNESS: No, I have done most of it myself.

15 DR. UFFEN: You are the person who used to read the...and make the counts and had to go through the difficulties of identifying clumps of fiber and...

THE WITNESS: This is true.

DR. UFFEN: You are the person?

20 THE WITNESS: Well, when you say 'I am the person', we...in our laboratory we have trained the people that take the samples to analyze the samples.

DR. UFFEN: Now, are they...

THE WITNESS: So that we don't...as a rule we don't become specific that one chap samples and another chap analyzes. You do the complete process yourself.

25 DR. UFFEN: Are these people within the three or four members of your...

THE WITNESS: Right.

DR. UFFEN: So that all three or four would have similar competence? A could do it, or B could do it, or C could do it?

30 THE WITNESS: Right.

5 DR. UFFEN: Do you find that you have a persistent, recognizable difference in your own counts? If you or B or C does them, that one of you always reads a little bit differently from the other one?

10 THE WITNESS: Yes, I think this is true when you start out, but this is why you run a quality control program within your lab, to make sure that everybody is counting as closely as possible, and then you move from that lab to another lab and involve other labs and do the same thing.

15 DR. UFFEN: When you make a count, did you keep track of who did the analysis? In your company records would you know whether it was your work or your colleague's, in any particular analysis?

20 THE WITNESS: Yes. I'm not saying that you can do it a hundred percent of the time, but most, yes.

25 DR. UFFEN: Would that be because you kept a data sheet and initialled it at the bottom or something like that, or just because you know each other's methods?

30 THE WITNESS: Because at the bottom of the data sheet it says who sampled it and who analyzed it.

35 DR. UFFEN: Had there been much of a turnover of the people who have done this work, your colleagues?

40 THE WITNESS: Probably we have trained nine people, so that there has not been much of a turnover.

45 DR. UFFEN: Thank you.

50 MR. LASKIN: Q. Were you, by the way, were you doing area samples or personal samples when you went in and did your measurements?

55 THE WITNESS: A. We were doing both.

60 Q. Doing both?

65 A. Right.

70 Q. Did you generally find much difference between

Q. (cont'd.) personal samples and area samples, at the Scarborough plant?

A. Yes, I would say there was generally a common difference between the two.

Q. Which is what? Is it a consistent common difference throughout the plant, or does it vary from place to place?

A. It varies with what the operator is doing. If the operator is actually exposed, that result is, as a rule, higher than the area. The personal sample is generally higher than the area.

Q. By...? Is there any approximate factor that runs through?

I ask you that because as I recall we had some evidence out of England which indicated that some of the measurements at Rochdale went from area to personal sampling, and that they were increased by as much, perhaps, as a factor of two.

Does anything like that accord with your own experience?

A. I think it would depend on what the level is to start with, to a large extent, as to what the increase is. Generally there is.

Q. There is an increase?

A. There is an increase. I would say two would be high in present-day conditions, where you are using somewhere between...what, less than two fibers per c.c., I would think two would be high.

Q. The last comment really brings me to...

MR. LASKIN: I'm sorry, Dr. Mustard. Did you have a question?

DR. MUSTARD: Yes. I'll wait until you finish your comment.

5 MR. LASKIN: Q. That really brings me to my last
issue I really wanted to canvass with you, Mr. Stevens, and I would
be interested from your own obviously considerable experience and
professional judgement in this field, and taking the Scarborough
plant in particular or indeed generally your company's asbestos
operations, what can you say about the extent to which fiber
levels in Johns-Manville's asbestos operations have dropped, if
10 at all, as between the time when you started measuring in 1969,
and say the late 1970's? Or even up to the present time?

THE WITNESS: A. At the present time? They are
not functioning right now in Scarborough.

Q. Not here.

A. No.

15 They have dropped considerably.

Q. Can you elaborate on that a little bit?
Where do they stand in the late 1970's, generally? Were you
down at one fiber?

A. Yes. I would say we were probably, yes, in
that area. Or less.

20 Q. Throughout all your operations, all your
processes?

A. I'm sorry. Are we talking an average figure
now? Are we talking individual figures?

25 Q. Let me put the question a little differently.
Were you satisfied in the late 1970's, while the transite pipe
section was operating, that that operation could meet a one
fiber standard?

30 A. Here again, we are in the same situation. If
you are talking about an average, yes, no problem. But if you
are talking about an individual sample that you take, it's an
entirely different thing.

An individual sample is...when you get down to that

A. (cont'd.) level is, in my opinion, of not too much value - an individual sample.

5 In order to know what the concentration is, you have to have a number of samples.

Q. So that if you took, as you say, a number of samples and took some kind of average in an area, were you satisfied that in the Scarborough operation in the 1970's, using averages, that it could in all of its processes meet a one fiber standard?

A. Yes. It could meet it. I'm not saying it would meet it every day. I think the average of the average is going to yes.

Q. Okay.

15 A. But you always have, no matter what kind of an operation you have, you have some problems that are generated when you handle mechanical equipment or even personnel... that will say that occasionally you may change, that level may drop or may go up.

MR. LASKIN: I interrupted you, Dr. Mustard.

20 DR. MUSTARD: Well, I was just curious, talking about personal sampling, in terms of the availability of the information to people in the plant.

If an individual working in the plant wanted to know what his exposure was, could he get access to that information?

25 THE WITNESS: Yes, that information is posted in the plant.

DR. MUSTARD: In the seventies, was it posted in the plant?

30 THE WITNESS: It may not have been posed in the beginning of the seventies, but certainly in the latter part of the seventies it was, yes.

DR. MUSTARD: And if the worker was concerned about a

5 DR. MUSTARD: (cont'd.) reading and wanted a resampling of an area, could he get that?

THE WITNESS: As far as I know he could get that, yes.

Let's put it...not through my...he couldn't...he would have to go to his own supervisor, through the channel at the plant, and get it.

10 DR. MUSTARD: My second question in this broad area, being an industrial hygienist and concerned about the operation maintaining a high level of performance and a minimum of exposure, did you ever come up against circumstances where you detected areas in which there was...the control wasn't as good as it could be, and you knew that and when you came back you found that the area still wasn't under control? Have you ever had situations like that occur? Where a process still wasn't down into the levels that as a hygienist you would like to see it down to?

15 THE WITNESS: Yes, we are continually striving to get it as low as we possibly could, so that you are always running into cases where we are looking for improvement.

20 DR. MUSTARD: When you found an area that wasn't coming down to your satisfaction, what was management's response to it when you brought it to their attention? I am presuming you would bring it to their attention?

25 In those interviews that you had with them, did you ever have any discussions about this?

THE WITNESS: Yes. They were receptive to this kind of thing and would try to bring it down.

30 One must remember that there is no book that you can go to that says this is the way you set it up and if you do exactly this that you will get low concentrations.

THE WITNESS: (cont'd.) It's a trial-and-error method of reducing fiber concentrations.

MR. LASKIN: Dr. Uffen?

DR. UFFEN: I've been thinking about your experience with the membrane filter methods and impinger methods and so on, so I wanted to ask you this question: Is there a level below which, in your opinion, the counting is unreliable...taking into account the variability of the reader who reads the microscope, and the testing...can we measure and know when we are measuring one fiber per c.c. of asbestos?

THE WITNESS: This is what I was trying to get across before when I was talking about one fiber per c.c.

DR. UFFEN: Is there a level, in your opinion, below which the results can't be trusted - through nobody's particular fault, just nature's...

THE WITNESS: I think you can trust the results, but taking in mind that that's just one result.

I have done some work where we were running around one fiber, with maybe five laboratories, and if you took all those results you are somewhere around maybe plus or minus seventy-five percent of a single result.

DR. UFFEN: Can the membrane filter method be used reliably to determine levels as low as point one fiber per c.c.? Consistently?

THE WITNESS: It depends on what you are talking about - reliability. I have given you reliability at one percent - it's plus or minus seventy-five. Do you call that acceptable, or...?

DR. UFFEN: Well, what about at point one fiber? What would your...

THE WITNESS: All right. The lower you go...let's put it another way...the lower you go in actual fibers, down,

THE WITNESS: (cont'd.) the more unreliable a single result is.

Unfortunately, it's not just quite as simple as that, for the simple reason that you have more than fiber in the air. You also have other dust particles and you can say well, why don't you extend your length of sampling that you do and you can get lower results because the dust particles hide the fiber that is there.

So you come to...there is a break point. Where it is, I don't know.

MR. LASKIN: Q. Mr. Stevens, could I just show you a series of what appear to be measurements out of the Scarborough plant, that I believe in fact were sent to the Commission a little over a year ago by Mr. Patterson?

Can I just ask you whether you recognize those sheets of paper?

THE WITNESS: A. I don't recognize these sheets of paper as per se, no.

Q. Do they appear to be summaries of the membrane filter measurements that were taken by you or your colleagues since 1969?

A. It doesn't really say where they come from here. I mean, you could give me any sort of figures. I can't tell where those came from, no.

Q. Okay.

A. Is this what you are wondering about?

Q. Well, Mr. Patterson provided those to the Commission, and I was just trying to find out from you whether they were...

A. If he said they were taken by or were recorded of surveys that Johns-Manville had done, then I would say yes, they would be that.

Q. But you don't know of your own knowledge?

A. I don't know of my own knowledge, and there is
5 no indication here of where the results came from. They could
be...

Q. That's fine.

A. I haven't got anything...

Q. You can't identify the document?

A. I can't really, no.

Q. Okay.

MR. LASKIN: Thank you, Mr. Chairman.

DR. DUPRE: Thank you, counsel.

Are we ready for the batting order?

MR. LASKIN: Thank you very much, Mr. Stevens.

MR. LEDERER: I have no questions, Mr. Chairman.

DR. DUPRE: Thank you, Mr. Lederer.

Miss Jolley?

MISS JOLLEY: I just have a couple of questions.

CROSS-EXAMINATION BY MISS JOLLEY

20 Q. Mr. Stevens, are you a certified industrial
hygienist?

A. No, I'm not.

Q. You are not.

25 Did you receive the Ministry of Health surveys over
the years, that they did, in your lab in Jeffrey? Would you have
received the results of when the hygienists came in from the
Ministry of Health?

A. Those were sent to the plant, eh?

Q. They were sent directly to the plant. Would
they go to you?

30 A. Sometimes when I would visit the plant I would
get copies of all...not always...generally I would, yes.

Q. On your point of entry?

A. Right.

5 Q. And on those hygiene surveys that you would receive on the point of entry communication, would it not have the guidelines that the Ministry of Health at that point was following - at the top - for comparison purposes?

A. If I recall, they have a...yes. Yes.

10 Q. So that you would, through the years, have seen what guideline the Ministry of Health hygienist, and subsequently the...

A. Were using, right.

Q. Right.

15 So that in a way you were being informed of what their guideline was, is that correct?

A. That's correct.

What the guideline they were using was. Right.

Q. Right.

20 You made a differentiation between a TLV and a guideline. I wonder if you could tell me what you interpret to be a TLV?

25 A. A TLV is a threshold limit value, is what it stands for, something for which an association or a group of people feel that having people exposed to that concentration for eight hours will not create undue health to the operator (sic), to those exposed.

Q. Could you tell us what the difference between a TLV and a guideline is?

30 A. A guideline, in my recognition, is something that you are trying to achieve. A guideline...we would...we desire or...it's not a fast anything, it's a guide, and a guide is something which one is trying to achieve.

Q. Does a TLV have legal...well, legitimacy in

Q. (cont'd.) terms of legal terms?

I don't understand the difference between a TLV and a guideline. It seems to me that they were using TLV's as guidelines. You differentiated between those two terms, and I...

A. Legality, I'm afraid you'll have to go to someone else for that sort of thing, whether it is a differentiation.

Q. Did you consider that guidelines were legally enforceable?

A. Well, legally enforceable? Yes, I've seen them being used as legally enforceable. Yes.

Q. Would you say that they were used as a legally enforceable...in a legally-enforceable situation in Ontario? Have you ever seen it used here?

A. I'm sorry?

Q. Here in Ontario, have you ever seen it used in terms of the Johns-Manville plant in West Hill, or your former Reeves Mine? Were they ever used as legally enforceable levels?

A. Yes.

Q. You were charged for violating a guideline?

A. I...

Q. Not you personally, the corporation. Has Johns-Manville been charged in Ontario for violating a guideline?

A. Has not been charged, no.

Q. Orders have been written?

A. Orders have been written.

Q. When did the OSHA standard change to two fibers per cubic centimeter?

A. In 1976, July, 1976, I think.

Q. You are aware of the fact that you were using a five fiber per cubic centimeter guideline in Ontario as late as 1974/75? You personally were signing documents that used a five fiber?

A. Yes.

5 Q. Were you ever asked to review Dr. Finkelstein's hygiene survey results?

A. Not on an official basis, no. I have a copy of his report. I have read it. I have not made any official comment on it, no.

10 Q. Dr. Finkelstein suggested that a Johns-Manville industrial hygienist had in fact reviewed his hygiene results. That was not you?

A. I think there may be trouble with the word reviewed.

Q. Were you asked...

15 A. What is your interpretation of the word 'reviewed'?

Q. Well, my understanding from Dr. Finkelstein, and I may be out of line, was that he had in fact given the results to the hygienists at Johns-Manville and asked them to review them to see if they felt that they were in line with what they thought the past might be.

20 A. Well, let's put it another way. I think probably I had given him a lot of results that we had taken.

Q. Right.

25 A. And the results that I gave him were the results which we had obtained, let's put it that way. If you are calling this as the review as to the actual results, yes.

Q. I think there were some estimations made in the hygiene results, and that was what my understanding was, that you were being asked to review, just for confirmation, say. That's not your understanding of what happened?

A. Yes. I think you are correct.

30 Q. My final question is, can J-M meet a zero point two fiber standard for crocidolite?

5 A. I think we are into this area where we are getting down as to how low you can go and...if you just want figures, or do you want to be able to say that in actual fact the concentration is less than point two? I think you can get figures that will show you that you are less than point two, yes. I'm not too sure that...of the validity of these figures, that's all.

10 Q. Do you consider a level of zero point two or lower as a ban, essentially?

A. I'm sorry? As a...?

Q. As a ban?

A. As a ban?

Q. A ban on the use of that type of asbestos?

15 A. No, I don't think so, necessarily. I think with our present technology it probably is, but who knows...let's hope that we are all progressing and what I've seen in the last few years, no one thought that we could even get as low as we are now, so that I'm not one to say that sometime in the future you can't be at point two level, but I think you've got to watch how you are going to measure that level, to know that you actually have what you think you have.

20 MISS JOLLEY: That's all the questions I have.
Thank you.

DR. DUPRE: Mr. Evans?

25 MR. EVANS: Mr. Chairman, may I ask the Commission's indulgence to meet with the witness for just a few minutes?

MR. LASKIN: That's fine with me.

MR. EVANS: Let me state the request for the benefit of the record.

30 May I meet with the witness for a few minutes, and take a brief recess before lunch?

DR. DUPRE: Yes. May we indeed recess for a...well,

DR. DUPRE: (cont'd.) shall we reconvene at exactly twelve-thirty? And to go then no later than one.

MR. EVANS: Thank you.

THE INQUIRY RECESSED

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THE INQUIRY RESUMED

DR. DUPRE: May we resume?

Mr. Evans?

MR. EVANS: Thank you, Mr. Chairman.

CROSS-EXAMINATION BY MR. EVANS

Q. Mr. Stevens, I would like to back up just a bit, to the beginning of your evidence today when you discussed the general scope of an industrial hygiene survey that would be conducted by you, or people working under you, at any one of the given locations in Canada.

We have confined most of our discussion to asbestos sampling, but I presume, by virtue of the fact you said you were there seven to ten days, other type of work was done as part and parcel of the industrial hygiene survey, is that true?

A. That's right.

Q. Can you tell the Commission the types of things that you would be examining during your investigation of any given Canadian location?

A. Well, we would also carry out noise evaluation, both on equipment and on personnel. We also evaluate fumes or gasses in the operating areas.

Q. What were some of the fumes or gasses with which you were concerned?

A. Carbon monoxide from lift trucks is one of them

5 A. (cont'd.) that you get in a plant. Also some adhesives have vapors coming off - this type of...or you are using toluene or something like this if you are doing a painting operation, and you make sure that the ventilation in these areas is sufficient to bring it below the TLV.

Q. Were there other dusts aside from asbestos, which required your attention?

10 A. At the plant there were other dusts. There were nuisance dusts, and from fiber glass operation...silica in another building, from the thermobestos or T-12, which we currently might... which are analyzed for.

Q. Did part of your seven-to-ten-day survey encompass any observations with respect to safety at plants?

15 A. Yes. We carried out a safety survey, you might say, of going around to make sure that...two things, basically, that the operators were using the proper protective equipment where they were supposed to, and also that machines were guarded properly to prevent injury to the operators.

20 Q. Mr. Stevens, you said earlier, as I recall, that the policy as established, at least by Johns-Manville for its plants, was that you were to visit and survey these locations between two and three times a year. Is that a fair characterization of your testimony?

A. Right.

25 Q. Were there occasions...let me rephrase that.

Did the plant manager at any given Canadian location have the opportunity, or was he authorized to request additional surveys done above and beyond that which was established by corporate policy?

30 A. Yes. He could request additional surveys to be done.

Q. Under what circumstances would a plant manager

Q. (cont'd.) so request the services provided by your group of hygienists?

5 A. If they were changing our formulations, or new equipment, or have improved some of the equipment where they had had...or trying some new piece of equipment, this type of thing. They might say 'let's do an evaluation of it to see how it is, what the concentrations are around these improvements, have they in actual fact generated an improvement'.

10 Q. Were there times, Mr. Stevens, when you could leave equipment behind you when you returned to Quebec, such that sampling could continue - notwithstanding the absence of you or your group of hygienists?

15 A. Yes. We sometimes left a pump or something like...a pump and some filters so that if we did have...run into a result that was high, then the plant, when we advised them that it was high, they could look at it, try and improve it and resample it and submit the membrane to us for further evaluation to see if the problem had been solved.

20 Q. I believe, Mr. Stevens, you had stated earlier that in the event of excessive counts or levels reported by you to the plant manager, that it was then left up to that plant manager to obtain whatever services were necessary to rectify the problem. Do you recall that line of testimony, in general?

A. Yes, that's true.

25 Q. If not yourself, then who would the plant manager turn to for assistance in correcting one of these problems?

30 A. Well, he had an engineering department right at the plant, and if it was beyond their scope or they wanted additional help, then they could call upon corporate engineering for help along those lines.

Q. Do you know if the Manville Corporation in

Q. (cont'd.) Denver does have a corporate department?

A. Yes, they do.

Q. Do you know if dust control is one of the matters with which that department is concerned?

A. Yes, it is.

Q. Mr. Stevens, in your experience in industrial hygiene as far as the Canadian locations are concerned, how many incidents are you aware of, sir, where the government has issued an order with respect to any violation of a guideline or TLV?

A. I can recall one order that was issued for the asbestos transite pipe plant. That's all I can recall there, and I can recall one in the T-12 operation.

Q. Asbestos is not...

A. It's not asbestos associated at all.

Q. T-12 is not an asbestos-related operation?

A. No, it's not an asbestos-related one.

Q. Well, I'm asking you specifically how many instances you recall where an order is issued with respect to an asbestos operation. Just one?

A. I can only recall the one.

Q. What was the substance of that order, if you can recall that?

A. The substance were that respirators be worn in certain areas where government had obtained high asbestos results.

Q. Mr. Stevens, turning to some of your earlier testimony with respect to the ability of Johns-Manville to meet a one fiber standard, for an example, what is your opinion of the ability of the company to meet that standard with respect to other operations aside from asbestos-cement pipe products?

A. I think in some operations they might...they

5 A. (cont'd.) could have problems meeting that from a purely technical point of view, and certainly you can't build a plant or anything like that and be able to say that that is going to be one fiber per c.c. or less, to start with.

Q. Is that because there is an initial break-in period where there is a trial-and-error situation?

A. Yes.

10 Q. Mr. Stevens, are you personally, or are you aware of anyone within the industrial hygiene group that you supervise, consulted by the parent corporation with respect to the economic feasibility of operating within given standards for asbestos?

A. No, we are not consulted on that.

15 It's true, I think...I'm not aware of the economics of a plant which was operating at one fiber.

20 Q. Are you aware as to what types of measures might have to be taken by Manville in the event standards were lowered...and by 'measures', I would define that as replacement of existing ventilation equipment, scrapping of current manufacturing machines, things of that nature. Do you have any idea of what measures would be taken, or would of necessity have to be taken in the event the standard was lowered to say point one fiber?

25 A. No, I'm not aware of that, but I know it would require extensive changes in many operations to get down that low.

MR. EVANS: I have no further questions.

Thank you, Mr. Chairman.

DR. DUPRE: Thank you, Mr. Evans.

Further questions, Dr. Uffen? Dr. Mustard?

30 DR. MUSTARD: Yes. I would like to go back to the question of the union or the work force requesting a measurement. Did you actually ever receive any requests from

5 DR. MUSTARD: (cont'd.) them, and did you ever...did your office at any time have a request from the union, members of the work force, at the Scarborough plant for you to come in and do a measurement? Can you recall ever having had that request?

10 THE WITNESS: No, I can't recall ever having a request to do something, but this request may well have gone to the employee relations department and then in that entrance interview somebody said 'would you sample in this area', or 'make sure you sample in this area for this and this reason', sort of thing.

I don't recall ever having any direct communication with a chap in the union that wanted it, no.

15 DR. MUSTARD: But let's take the employee relations. Did you have requests from them which were generated, as far as you could determine, by the union?

THE WITNESS: I can't recall any, but I would say this is possible, yes.

20 DR. MUSTARD: When you received a request from the Scarborough plant over that period that you had your responsibility, from 1969, are you obliged to respond to that request? It's a dotted line relationship as opposed to a relationship to the corporate head office. Are you obliged to respond, or do you have the option of not responding?

25 Do you have to get clearance, say from Denver, go go, or do you go automatically when you receive the request?

THE WITNESS: If I get, shall we say, what I think is an unusual request, I could ask them to formalize it - in other words, go through Denver this way.

DR. MUSTARD: I see.

30 THE WITNESS: And that request can still be met if it goes through the channels. This is...I think you'll find this is the way in which lots of things are done in business.

5 DR. MUSTARD: Turning to another question in your testimony to Mr. Evans, in view of the complex way the hygienists lab related to the Scarborough plant in the seventies, if an order was given to the Scarborough plant I presume it would not go to you, it would go to the manager of the Scarborough plant, is that correct?

THE WITNESS: That's true.

10 DR. MUSTARD: Would you, therefore, know about all the orders or would that be something which you might hear about it when you came, but you might not hear about it, as well, as they didn't pass the information on to you?

15 THE WITNESS: That is true, although generally it's generated by something - why you have an order. So in many cases the manager or the public relations, employee relations chap would phone me up, you know, 'what are your results in this area', this type of thing.

DR. MUSTARD: Okay, thank you.

20 THE WITNESS: So I won't say I knew of all the cases, no.

DR. DUPRE: A couple of questions, Mr. Stevens.

You have established in your dialogue with Mr. Evans that you were aware of an order having been written and indeed it had to do with respirators.

25 To whom would such an order...to whom would that order have been addressed to, to the plant manager?

THE WITNESS: Right.

DR. DUPRE: And you would become aware of it only insofar as the plant manager might have communicated it to you at an entrance of exit interview?

30 THE WITNESS: Or as we said, we now have an order here, what are your results in this area - can you see cause or relationship, what we could do to improve it, or this type

THE WITNESS: (cont'd.) of thing.

5 DR. DUPRE: Okay. So it could be that kind of informal communication?

THE WITNESS: Right.

10 DR. DUPRE: Now, in the period in which you have been the industrial hygienist, are you aware of the relevant frequency with which government inspectors did samplings - for example, at the Scarborough plant?

THE WITNESS: Yes. In a general way, yes.

15 DR. DUPRE: How often would they have been going in there? I think you established in your testimony this morning that you, yourself, would go in probably twice a year?

THE WITNESS: That's right.

20 DR. DUPRE: How often, to your knowledge, were the government people going in?

THE WITNESS: My understanding, certainly in the early seventies, was that they would go in annually, and if they had, quote, I guess, 'found a few problems' or a few things, they could go in a little more frequently.

25 DR. DUPRE: Now, on the basis of readings that government inspectors took, were you ever informed of what those readings were?

THE WITNESS: Oh, yes. Not always, but sometimes in an entrance interview. This is why...

30 DR. DUPRE: Most commonly then? Or through the...

THE WITNESS: Or through an information, if they had an order, yes.

DR. DUPRE: But the government would not, the ministry would not itself ever transmit such results to you?

THE WITNESS: This is true, except...

35 DR. DUPRE: Presumably sent the results to the

DR. DUPRE: (cont'd.) plant manager?

5 THE WITNESS: That's right. Except for occasionally, possibly, where we were doing...

DR. DUPRE: Side by side.

THE WITNESS: ...side-by-side sampling where we would then contact one another directly.

10 DR. DUPRE: Do the occasions on which you were called upon to comment or remark on government measurement, do these occasions...have these occasions enabled you to form any professional opinion as to the relevant quality of government measuring?

THE WITNESS: I would say on the whole government measures are good.

15 DR. DUPRE: Okay.

One last point, Mr. Stevens, I would like to show you the organization charts that were introduced in evidence by Mr. Cashman. There is, in the organization chart immediately in front of you, the chart that shows the 1982 organizational changes in which the Quebec asbestos operations now find themselves under a firm called Johns-Manville Canada Incorporated, while the Ontario operations find themselves now in Manville Canada Incorporated.

THE WITNESS: Right.

25 DR. DUPRE: Now, as I follow that chart and as I bear in mind that you still have one lab here in Toronto, and there still exists the Jeffrey Lab...

THE WITNESS: That's right.

30 DR. DUPRE: ...does this mean that you are basically in charge of two labs, each of which is in two different companies - the Quebec one being in Johns-Manville Canada Incorporated, the Ontario one being in Manville Canada Incorporated?

THE WITNESS: That's true.

5 DR. DUPRE: In that you are the head of two labs, one of which is in J-M Canada Incorporated, the other of which is in Manville Canada Incorporated, which of these two firms is your employer?

THE WITNESS: Neither.

DR. DUPRE: I see.

10 THE WITNESS: I work for the parent company, which is Manville Corporation.

DR. DUPRE: That would be your employer of record?

THE WITNESS: Right.

DR. DUPRE: Any further questions, counsel?

EXAMINATION BY MR. LASKIN

15 Q. But you are not paid by your employer of record, if I understood your prior testimony to me?

20 A. All right. The accounting set up, I'm not aware of...all the details of it. We are working in Canada, we are paid in Canadian dollars, and I think in order to facilitate that there is an agreement, is my understanding of it.

But as far as dollars, where they go, they are charged against the main company.

Q. And you were...

25 A. In other words, I work for someone who is in Denver, the hiring is done by somebody in Denver, it's not done by either one of these two corporations here.

Q. You were hired out of Denver?

A. Well, okay. I was hired out of headquarters, which wasn't in Denver at that time.

30 DR. UFFEN: How about the other members of your laboratories?

THE WITNESS: Right.

5 DR. UFFEN: They are appointed in the same way as you?

THE WITNESS: Yes. They are hired by...well, myself, through George Swallow, etc.

DR. DUPRE: As the head of those labs, you have a budget for each lab?

10 THE WITNESS: I have an annual budget, yes, like most of us.

DR. DUPRE: All right. Is this annual budget something that in turn forms a part of the budget of the...excuse me for a moment while I go back to...oh, no, there it is there.

15 Would it form part of the budget of industrial hygiene division that is under the chief environmental scientist?

THE WITNESS: This is right.

DR. DUPRE: Okay. And neither budget would have anything to do with such budgets that might exist either with respect to J-M Canada Incorporated or Manville Canada Incorporated?

THE WITNESS: No.

20 MR. LASKIN: Q. Just one final question.

In terms of your own industrial hygiene experience in the field of manufacture of asbestos products, did you have any of that experience outside cement pipe?

25 THE WITNESS: A. Yes. At the Toronto plant they made thermobestos, in the early seventies, and associated with... brake lining, textiles, asbestos paper..

Q. Out of which...

A. ...is this the sort of thing?

Q. Yes. You had experience, personal industrial hygiene experience, with the textile operation?

30 A. Yes. Right.

Q. You have? Whereabouts?

A. Asbestos.

Q. At Asbestos? Right.

5 What can you say as to the capacity of that operation in the late...was it operating in the late seventies? Middle seventies?

A. It was operating up until, let's see, yes.

Q. Late seventies?

10 A. It's shut down now, but it was operating in the late seventies, right.

Q. What can you say as to the capacity of that operation, on an average basis, to meet a one fiber standard in the late 1970's?

15 A. That plant or a textile plant? This is where we get into the economics of...they had some new equipment which was much better than the old equipment, and they also had some equipment which was having trouble...would have trouble meeting a one.

20 Q. I see. But the new equipment was able to do it. It was, I take it, a matter of whether the company could, from a cost point of view, afford it?

A. Well...

Q. You said the company had some new equipment and some old equipment.

A. Right.

25 Q. I took from your evidence that with the new equipment and the new technology you could have met one fiber on an average basis in that textile operation. Was I fair to take that away with me?

30 A. For a certain part of the operations, yes. I'm not too sure that you could get a complete textile plant...I don't think the equipment is available as yet so you could get a complete, all-new equipment, shall we say...I'm not aware of

A. (cont'd.) all-new equipment that would get you so that every operation was at one, but some of them can be, yes.

MR. LASKIN: Thanks, Mr. Stevens.

DR. DUPRE: Well, Mr. Stevens, may I thank you very much for coming here this morning, and I take it at this time that I should now announce that we rise until two-thirty, is that correct?

We rise until two-thirty.

THE COMMISSION RECESSED

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THE COMMISSION RESUMED

DR. DUPRE: May we come to order, please?

The Commission warmly welcomes Dr. Fitzgerald, the medical officer of health of the Borough of Scarborough.

May I ask Miss Kahn please to swear in the witness?

DR. EARNEST KEITH FITZGERALD, SWORN

EXAMINATION-IN-CHIEF BY MR. LASKIN

Q. Now, Dr. Fitzgerald, you are a medical doctor?

A. Yes.

Q. Can you tell us when and from what university you graduated?

A. I graduated the University of Toronto in 1950. That answers it.

Q. Yes, and could you just briefly trace for us what you pursued by way of your profession, after your graduation from the University of Toronto?

A. I did the usual rotating internship. I spent a total of twenty-five years in the military, during which time I

5 A. (cont'd.) took various training courses of one sort or another, including my public health training. I retired from the military in 1970, was medical director of St. Joseph Hospital, Toronto, until 1974, and became the deputy medical officer of health, Scarborough, at that time, and became the medical officer of health in February of 1978.

Q. Thank you.

10 I take it when you were in the military, you were a medical doctor in the military?

A. Yes. Well, post-war I was. Wartime, I was an infantry officer.

15 Q. Just to understand your position as medical officer of health, as I understand it that is basically within the board of health of the Borough of Scarborough, and you are in essence the executive director?

A. Yes. I'm the medical officer of health for the Borough of Scarborough and the executive director of the board of health, and with it comes the head of the department of public health.

20 Q. And you are employed by the borough?

A. I am a borough employee, yes.

Q. And you report to whom?

A. I report to the board of health, and through them to the council.

25 Q. To the council. And what sort of a staff do you have under you, in terms of size?

A. The staff is approximately a hundred and eighty all told.

Q. And can you just briefly tell us what your responsibilities are as a medical officer of health?

30 A. Well, I guess the easiest way to say it is that I have the responsibility for the public and community health

A. (cont'd.) of the Borough of Scarborough. It's a legislated responsibility under the Public Health Act.

5 Q. Now, I take it that you have and did have some familiarity with the Johns-Manville plant in Scarborough?

A. Yes.

Q. In your role as either deputy, assistant medical officer of health and medical officer of health did you have some contact with that facility?

10 A. Yes, I did. This commenced, to the best of my recollection, late 1974 or early 1975, when the community became concerned for asbestos in the general environment of the community.

Q. And did that concern filter its way through to your office?

15 A. Yes, it did, and also I happened to reside within about eight hundred yards of the Johns-Manville plant, almost due west of it, and as a result I took a special interest in it, though I had some knowledge of asbestos and its hazards from my undergraduate days as well as my postgraduate days.

20 Q. Do you recall who came to you? In other words, what constituency, if you can recall, came to you at the board of health?

A. How we initially got involved, I guess, was there was organized by someone...and I'm not too sure who it was that organized it...a community meeting in the local high school, one evening, concerning the environmental aspects of asbestos.

25 I was asked to speak at that, and did so. Subsequent to that, we had representation by union personnel of the union at Johns-Manville, to the board of health.

I remember particularly Charlie Neilson, the president of the union, and I'm trying to remember the fellow's name...

30 Q. Mr. Cauchi?

A. Cauchi, yes...who was one of my unforgettable characters.

Q. What were the nature of the representations that were made to you as medical officer of health, by the union?

A. Well, they believed that the board of health could assist them in bringing about changes in their perceived errors in the operation of the plant, and as a result the board of health did do something.

But the jurisdiction on this matter at that time was a little bit fuzzy, and as a matter of fact it still is, insofar as the responsibility of the board of health in industrial health matters.

Q. Can you elaborate on that a little for us?

A. Well, at that time we had direction from the then-Ministry of Health, who had within it the directorate or branch, whatever it was called, of occupational health and safety, that we should not, as medical officers of health, we should not become involved...and these were two letters I remember particularly that were addressed to the chairman of the board of health...we should not become involved in occupational health matters - this was a matter exclusively for the ministry.

Those letters were dated 1975 or thereabouts.

Q. So that I take it that the corollary of that is that at least the ministry viewed your jurisdiction as being one limited to community...

A. Community and public health, yes.

Q. Community and public health, but not the industrial side per se?

A. That's right.

Q. Is that still the case? Do you still approach your task in that fashion?

5 A. No, they seem to have backtracked a little on that, but then of course don't forget that this particular branch has swung over, what, 1976, 1978, from the Ministry of Health to the Ministry of Labour, and it's therefore more the jurisdiction of labour.

10 But I think I'm right in saying that there just isn't the staff or the time available for a public health department to become involved in all the industrial occupational health matters that would go on in an industrialized borough such as Scarborough. I would need two, three times the staff if I were to take this sort of thing on.

15 Q. Just coming back again to the representations from Mr. Neilson and Mr. Cauchi, and I think you indicated that the board of health did do something, what did it do?

A. I'm reminded here today that they passed a resolution dated the 7th of March, 1975, and I've just had a chance to scan it to refresh my memory.

I remember it, though.

20 Q. You remember this resolution?

A. Yes.

Q. We have already marked it in our own proceedings as exhibit sixty-nine, as you will see.

A. Yes.

25 Q. Looking at recitals on the first page, I take it from the second-last recital that some persons within the board of health had already visited the plant?

A. Yes. That would have been the medical officer of health at the time, Dr. Ed Abbott. I remember particularly he made an inspection at the request of the board of health.

30 Q. At the request of the board of health?

A. Mmm-hmm.

Q. Would the resolutions on page two, the five

5 Q. (cont'd.) resolutions, do you recall, have come about as a result of his recommendations, having visited the plant?

A. Certainly in part, anyway. Whether they were all as a result of it, I couldn't say.

10 The mover of this resolution, Janet Clark, was quite involved in this and other social action type of things at the time, so some of them could have been of her own making.

Q. Just going through those resolutions, the first one requests that all Ministry of Environment tests be forwarded to your department. Do you know whether that was done?

15 A. These were done, yes. They ceased being done after a period of some years because...well, as a matter of fact, the Ministry of the Environment, if I'm not mistaken, ceased doing the testing because there was nothing being gained from it, the results were so negligible, and the same thing is true of the drinking water.

20 There was nothing being found over a period of some years, and certainly the ambient asbestos levels in the air was...they stopped the monitoring of it because the results were so low.

DR. UFFEN: Excuse me, could we ask him, remember approximately what they were?

25 THE WITNESS: No. Sorry, Bob. I can't recall the levels. It's some seven, eight years ago now, but they were barely detectible, if I remember. In some cases they were finding only a few fibers, two or three fibers per sample...in the ambient air, that is.

30 And that was...they had four sites around the plant - one to the east, one on the northern...inside the northern side of the plant just inside the plant fence, one across the road on the roof of the high school, Sir Oliver Mowat, and one to the west

THE WITNESS: (cont'd.) oh, five hundred, six hundred yards...in the backyard of one of the houses there...and they would activate these when the climatic conditions were at their worst for that particular sampling station.

For instance, if you got a south wind blowing, then they would activate the ones to the north, and the readings were very low, very low.

DR. UFFEN: Do you remember whether...was it the standard technique known as the membrane filter method, or did they have some continuous monitoring device?

THE WITNESS: If I'm not mistaken, it was a device that they turned on when the...it wasn't continuous because they would be wasting their efforts when the climatic conditions were not suitable...so they would turn them on, when they got a south wind blowing, to turn on the monitoring stations to the north.

I know in many cases they had to wait considerable periods of time to get the right climatic conditions for certain of the monitoring stations, because the prevailing wind there is from the northwest, and it would be the one to the east of the plant that would be receiving the wind most often.

MR. LASKIN: Q. Then the second resolution relates to crocidolite, and do you know whether the Scarborough board in fact made the request that...

THE WITNESS: A. This, I might say, was my own inspiration of suggesting this blue asbestos banning, and I know that the literature now really is controversial on the item as to whether blue asbestos is any worse than white or brown, but I do know that this did go to the federal government, Martin O'Connell was a local member of parliament and he was a minister in the government at the time, and I have forgotten what his ministry was but I think it was something to do with trade and commerce, that type of thing, and therefore he had not only a

THE WITNESS: A. (cont'd.) local interest, but he had a ministerial interest in this.

5 He was also, if I'm not mistaken, trained in economics. I think that was his basic discipline.

I heard from him subsequently that they had considered this at some length of time, in Ottawa, and they decided that the health reasons that were presented, and for economic reasons as well, that there wasn't justification in
10 banning the importation of blue asbestos.

It only made up...depending on what size of pipe they were making...two percent or six percent of the asbestos that was used at Johns-Manville at that time, if I remember correctly.

15 Q. The third resolution requested the Ministry of Health to do certain testing, and did it, to your knowledge?

A. I guess that might be what prompted me to do my study, my survey, although I would like to think that I thought the darn thing up myself. But I can't recall.

20 As I say, seven or eight years have gone by...this is dated March, 1975...and I didn't get that done until late 1975/76, so it's possible that the initiation of this idea came from somewhere within the board of health, or it could have come from myself as associate medical officer of health at the time, and I could have implanted the idea in the board's mind. I can't recall.

25 In any case, it was done.

Q. But by you, rather than by the Ministry of Health?

A. Well, it was done by me. They funded it and they provided the technicians to operate the x-ray equipment and the pulmonary function equipment.

30 DR. DUPRE: May I just ask, Dr. Fitzgerald, which branch of the Ministry of Health did this? Is it the branch that

DR. DUPRE: (cont'd.) is now in the Ministry of Labour?

5 THE WITNESS: No, no. The funding for this would come from the public health branch. It certainly wasn't from the occupational health.

DR. DUPRE: And the technicians? Where do they come from?

10 THE WITNESS: The technicians came from the chest disease service, Dr. Vingilis's group.

MR. LASKIN: Q. Dr. Vingilis?

THE WITNESS: A. Yes.

DR. DUPRE: Okay.

15 At the time, though, there was no relationship that I recall, at all, between the chest disease service and the public health branch of the Ministry of Health, was there?

THE WITNESS: No.

20 Now, there was another thing that...well, it's in my report and I guess it's there for you to read, but I was not geared to start this...I wasn't planning on starting this study of these household contacts until oh, early 1976, and lo and behold I found I was getting all manner of phone calls from the politicians - because there was an election, if I remember, in August of 1975, a provincial election, and they wanted this done, like, yesterday. The earliest I could crank the thing up and get it started was something like November, in spite of that, so we got the thing
25 going in November, it seemed to me, October, November of 1975, when we were hoping to ease ourselves into it some six months later.

30 I think I refer to it my report, the political pressure, or something, that was brought to bear. I guess these are facts of life.

MR. LASKIN: Q. I would like to come back to that

5 Q. (cont'd.) study, if I could, in a moment, but could I just finish with you, Dr. Fitzgerald, the other two resolutions?

A. Yes.

Q. Do you have any recollection of what, if anything, happened to resolution number four?

10 A. I don't recall that the wearing of protective, disposable coveralls and air filtration respirators was made compulsory. It's possible it was, but I'm just saying I can't recall it.

15 The business of taking a cleansing shower and changing clothes, yes, this was accomplished at Johns-Manville. They built an addition to their building, with locker rooms and a double-locker system with showers in between.

DR. DUPRE: After this resolution was passed?

THE WITNESS: Oh, yes, because...

DR. DUPRE: And you believe as a result of this resolution?

THE WITNESS: I would like to think so, yes.

20 MR. LASKIN: Q. Is that something that your board of health could itself have required at that time?

THE WITNESS: A. Could have required?

Q. As opposed to suggesting or recommending it?

25 A. I suppose they could have brought considerable amount of weight to bear on any industrial organization to do something. Whether they had the right in law to do it, I don't know. I suppose...the Public Health Act doesn't specify this sort of thing, and I suppose if some industrial organization wanted to contest such an order that only a court could probably decide.

It never did go to court. They complied.

30 I know, also, that there was an increase in educational activity in the plant. Whether this was sustained or

A. (cont'd.) not, I don't know.

5 Q. Then the last one resolves that the medical officer of health...and I take it that would have been Dr. Abbott at the time...make an inspection?

10 A. Yes, he did make an inspection, and what this is, after consulting with the borough solicitor to consider taking appropriate action under Section eighty-seven; ninety-two, one and ninety-six of the Public Health Act...I would have to look those up to find out what they refer to.

Q. You have no recollection of...

A. I have no immediate recollection of what those refer to, or what came of that portion of the resolution.

15 Q. Apart from this resolution and apart from the study, which I'll come to in a moment, did you in your capacity as medical officer of health have any continuing involvement with or communication with that facility?

20 A. No. After this resolution, came the study. After the study, interest in following through on Johns-Manville, or continuing to make further inspections and whatnot, no, this was not done, and I notice here that the chairman at this time was Dr. Ian French, and also a Mr. Bonnie (ph.) was acting chairman at another time in there, and they were the recipients of these letters from the Ministry of Health, if not from the Minister of Health at the time.

25 I seem to recall those letters were signed by the minister, but I could be wrong on that.

Q. These are the letters indicating...

A. Saying that this is not your jurisdiction, this is Ministry of Health jurisdiction. These are the people who received those letters.

30 Q. Did you yourself ever make any personal inspection of the plant?

5 A. I have visited the plant on a number of occasions, but not in a formal inspecting capacity. It was mainly, I think, to do with my survey - getting a feel for what went on there.

I might say I had visited the plant as a postgraduate medical student, some time in 1956 or 1957.

10 Q. In terms of your survey, do you recall who your contact was at Johns-Manville, in order to assist you with the names of your cohort?

A. Charlie Neilson was the union contact. He was most co-operative. And the...I have forgotten the name of the plant superintendent at the time.

Q. Would it have been a Mr. Lowrey?

15 A. No, that wasn't the name.

More recently, Melinkoff is the most recent superintendent and I don't know if he's still there.

Q. Did you have...

A. They were both extremely co-operative.

20 As a matter of fact, one of the things that they did in anticipation of the study was that they were able to get from Colorado...because Colorado was the only place where these records existed...the names and useful addresses that they had of former employees. To my knowledge, the Ministry of Labour, who have an ongoing study of former employees of Johns-Manville, are using this list of names and it was provided at considerable expense by Johns-Manville, because the darn thing was four or
25 six inches thick - all photocopies of employee records.

Q. Did you, amongst the information that you got, did you have any exposure data on...first of all, did you have any exposure data on the workers themselves?

30 A. No.

Q. Was there...

5 A. We assumed that...we took anyone who admitted to having worked at the plant in any capacity, twenty years before or more, and while most of the people had worked in a production capacity, there were, I'm sure, some who worked in a clerical or administrative capacity, but the majority of them were production workers.

10 Q. But they didn't necessarily have to be, I take it, production workers in the transite pipe section to come within your cohort?

15 A. No, because we quickly identified that the production workers moved back and forth over the years between one section of the plant and another, and it would be impossible to separate out those who had worked exclusively, almost exclusively in asbestos, or in the fiber glass or the rockwool, so we took all workers, figuring that they would all get some exposure to a greater or lesser degree.

20 Q. Was there...I appreciate that there was some attempt made here to measure, not in a mathematical way but in a nonmathematical way, the kind of conditions that might be existing in the home, by means of your questionnaire?

A. Yes.

25 Q. Was there any consideration given to trying to make any sort of estimate as to exposure levels that might have been in the household?

A. No. It would be impossible to...at least my mind doesn't conceive of something that would be scientifically valid.

30 I must mention, too, Mr. Laskin, that I don't profess to be an expert in asbestosis or asbestos exposure. I am a generalist in public health, I deal with all manner of things in public health. I am not scientifically bent, I am not a researcher, I make no apologies for the survey that I did. I think

5 A. (cont'd.) I did a pretty good job with the background that I have, and in saying that I'm not taking offence at anything you said, either. I'm trying to explain my own position.

Q. No, no. That's perfectly fair.

10 I take it your conclusion is indeed is stated at page seven, that no case of pulmonary, neoplastic or asbestotic disease was found.

15 Can I ask you this? You made reference in your report to Dr. Anderson's household contact study in the United States, and as I recall that study the main thing that he found, if anything, were a number of household contacts with pleural changes, not necessarily amounting...not asbestosis and not malignancies, but some pleural changes. I am just wondering whether you found any of that?

A. None whatsoever, and of course the x-rays from our survey would be seen by the same people who saw his, because they were, a representational set were sent to Irving Selikoff.

20 As a matter of fact, I visited Irving Selikoff in New York City before doing this survey.

Q. Before doing the survey?

25 A. Oh, yes. And got some tips from him as to how to do it, and it was at that time that he agreed to review the radiographs for me, after we had done them, and it was he who commented on the quality, the high quality of the chest radiographs of our survey.

Q. Do you recall now what tips he might have given you in terms of doing the study?

30 A. Oh, gosh. No, I remember he particularly helped us in the smoking history. There was a standard method that he liked to see in smoking history, and he gave us that. He wanted

5 A. (cont'd.) to be sure that we classified the reading of the films in accordance with the international classification, which we did.

I asked him, if I remember correctly, about using Dr. Oakes as a second viewer of the films, and he thought that he was a good selection.

I can't think of anything else offhand.

10 Q. Can I ask you in a general way, and perhaps I should have asked you this at the outset of talking about this study, but what in your own mind did you conceive as being the purpose of doing this study, at the time?

15 A. I had hoped to go from phase one, to phase two, to phase three. I hoped that because...if I remember correctly, and I was an undergraduate of medicine, now, thirty-two years ago, but I seem to recall being taught that there were household contact cases of asbestosis known in the late forties - that were already reported in the medical literature.

20 Some how or other, that stuck in my mind as an undergraduate. Why that should stick in my mind and not something else, I don't know. But it did.

25 I felt that in this instance the workers were already being studied properly by the industrial chest disease service, and here was an opportunity to look into the, what I chose to call conjugal contacts, of those production workers, and if we found something there, and even if we didn't, that there was a need to do the former workers at the plant, and if we found anything in the conjugal contacts, then this would lead us to suspect that some people in the immediate community, who would have a lesser degree of exposure than the household contacts, should also be studied.

30 Well, since we found nothing in those who were at the greatest risk or the greatest amount of exposure, the

A. (cont'd.) conjugal contacts, then there was no particular point in doing the neighborhood.

That's the reasoning behind it.

Q. All right. In terms of...you made two recommendations, which appear at page nine of the report... recommendation number one is to repeat the conjugal survey five years hence. Did that happen?

A. Well, it was applied for, and for a variety of reasons, no, it has not happened. The application was made to the ministry. They used the expression, 'the application got stuck' for a year within the ministry, even though the...

Q. Which ministry is that?

A. The Ministry of Health. Even though Dr. Bob Elgie had announced in the legislature that this study would be done.

Also, on top of that, Johns-Manville had gone from an employee force of seven hundred, plus or minus, in 1975, 1978 or thereabouts, down to about a hundred and fifty at the time we were making the application, and all the records from the Toronto plant had been transferred down to Colorado.

So we had to make applications, also, through Colorado, for help in identifying the other...the next five years' worth of people...and that, I don't know, in spite of a couple of letters and a few long distance phone calls, that never came about.

Q. Do you recall who you applied to, who you wrote to in Colorado?

A. I don't know if his title was medical director, but he was certainly a physician.

Q. Was it Dr. Kotin?

A. No, no. I know Dr. Kotin. It wasn't he.

Q. Was it Dr. Paul?

A. I don't...I can't recall, I can't recall.

For one thing, while I had initiated this second five year thing, because of the time lag in it and my becoming involved in other things, my associate took it on. My associate was gung-ho to do this, more so than I was, because I had become discouraged in the interval, and she became very much involved. She wanted to really get on with this.

She became discouraged, too, at the lack of co-operation.

Q. The lack of co-operation from the company?

A. Yes, I would say this. We were...we had the tentative go-ahead from the ministry. We got...and after, as I say, a couple of letters, a couple of long distance phone calls, various promises being made, it didn't...they didn't follow through, yes. I would say so.

But there was also the initial discouragement of it being stuck in the Ministry of Health for over a year. That turned us off a little bit, too.

So it hasn't been done.

Q. Is the matter dead?

A. As far as I'm concerned it is, because I have only got so many hours in the day to do these things, and I've got many other things that I have to handle, and this is, in my mind, is extracurricular work. It's on my own time, and I've got many, many extracurricular activities going - not of a personal nature, necessarily, either - that I just haven't got the time.

Q. What about your enthusiastic associate?

A. She's got other things as well, that keep her busy.

We've got many things going on right now in public health. We've got a new Immunization Act, we've got a new Health

5 A. (cont'd.) Protection Act, we've got accreditation and Lord knows what all that will keep us going for the next four or five years without taking on extra things like, of this nature.

DR. UFFEN: Don't you have a few tons of radioactive soil?

THE WITNESS: Yes, I have that too, Bob.

10 DR. UFFEN: I should have thought you could have got it into Borden.

MR. LASKIN: Q. Can I ask you, accepting that it wasn't done and you certainly explained the reasons why, did, on a case-by-case basis, any case come to your attention, of household contact disease within the five year period? Did anybody report anything to you?

15 THE WITNESS: A. No. Not of pure household exposure, am I aware of a case of asbestosis or carcinoma in a pure household contact emanating from the Johns-Manville plant.

20 There have been cases of carcinoma and asbestosis in people who might otherwise qualify as household contacts, but when you look into their history you find that it is not pure, that they are second-generation employees.

Q. You find some occupational exposure?

A. Yes.

25 Q. Indeed, you mentioned mesothelioma in your report.

A. Yes. We found that, too.

Q. Do I take it that recommendation number two, I assume, was not...has not been implemented? That is, the former employees?

30 A. This is being done, as far as I know, by the Ministry of Labour as an ongoing thing. It's a very difficult task

5 A. (cont'd.) because the main part of the detective work is in locating these people. They are spread to the four corners of the globe.

Q. But is it your understanding that they are then going to look at household contacts of those former employees?

A. No, it's not my understanding they would be looking at household contacts. Just the former employees.

10 Q. Just the former employees.

A. That's my understanding.

15 Q. Can I ask you perhaps a general question, but having undertaken this survey and in light of the recommendations you made, and the survey is in a sense a form of medical surveillance, what in your judgement are the benefits to be derived from a survey such as this and an ongoing surveillance such as this? What benefits did you see?

20 A. Well, I suppose one could say that there is no particular benefit if you were to discover disease in the subjects of this survey, because you have nothing to offer them in the way of cure. You might offer them something in the way of treatment which would make their life more livable, but what you might achieve for the future is, in household contacts of similar types of workers who are exposed to pneumoconioses of various types, you might then be able to offer them some preventive measures such as proper working conditions so that the index workers were not themselves unduly exposed, proper protective measures for them, and then proper clothing, ablutions, so that they didn't bring the contamination home with them. That's something that could possibly be offered.

25
30 So it would be...this is often the case with medical research, that you don't benefit the people on whom the research is being done, you benefit somebody else.

Q. What kind of reaction did you get from the

Q. (cont'd.) household contacts that you did study?

Was it...

5 A. They were extremely co-operative, willing. I have forgotten the exact percentages that are in my article there, but there was something in the order of eighty to eighty-five percent of the indexed workers volunteered their household contacts. So that's pretty phenomenal to get that high a degree of voluntary participation.

10 We even got addresses provided of people who had moved away, and we made contact with them. We got a pretty good response that way as well. We got the response from British Columbia, from the Maritimes, from California.

15 Q. Did you find that there was already a concern amongst these household contacts as to possible exposure and disease, or were you alerting them to a problem or a potential that heretofore they hadn't really considered?

20 A. No, I wasn't telling them anything they didn't know. They were already aware, if I recall correctly, that they, as their spouses, had been exposed to a degree of risk. They didn't know the amount of the risk and they were very pleased that something was being done, and of course we took steps to report our findings back to them - including some of the incidental findings - back to the participants through their family physicians.

25 Q. What else did you do with this report? Did you send it back to the Ministry of Health?

A. Yes. It went to the ministry, it was submitted to the Canadian Medical Association journal for publication, they weren't interested. I could never understand it.

30 I take it they were only interested in clinical subjects.

Q. Did they give you a reason?

5 A. I've forgotten...they gave me some reason in a letter, yes.

Then it was submitted to the Canadian Public Health Association journal, and they had it, oh, six, nine months. Finally I wrote them a reminder asking them what had happened to it. I hadn't even received an acknowledgement that it had been received.

10 They said, oh, the reviewer hadn't got around to reviewing it yet, and subsequently I got a letter making all manner of what I considered at that time petty little comments, nit picking things, and besides, I had gone on to other things and they suggested that it be rewritten along certain lines - I just didn't have the energy or the inclination or the time, so I just dropped it.

15 Therefore, it was never published in a scientific journal.

MR. LASKIN: I think those are all of my questions. Thank you very much, Dr. Fitzgerald.

DR. DUPRE: Miss Jolley?

20 CROSS-EXAMINATION BY MISS JOLLEY

Q. I just have three questions.

25 On page number five, you mentioned earlier in the testimony that Dr. Selikoff suggested that you use the ILO classification system, which you indicated that you did, but here it says that you used the Ontario Ministry of Health adaptation?

A. Yes. I don't know the difference in the significance of it.

I don't know the difference between the ILO and the Ontario ministry's adaptation of it. I couldn't comment on it.

30 Q. It would be Dr. Vingilis who suggested the new, the other classification rather than the ILO, or the adaptation?

5 A. Of course, I was beholden to him to read the chest radiographs for me, so I...and I'm not a radiologist, I wouldn't know the difference between them, the two systems.

It's my impression that there is not a significant difference between them, but I wouldn't know.

Q. Also on page five, you did a scaling of housekeeping.

10 A. Yes.

Q. Was the intention of this to compare clinical results to housekeeping? I don't quite understand why...

15 A. Yes. In my reading of similar types of studies, we found that there was the implication that where there had been cases of conjugal contact asbestosis, that a high degree, a high standard of housekeeping seemed to lessen the possibility of this.

All we were trying to do is to see if there was that possibility in here. Since we found no asbestosis, it was all for nought.

20 Q. But surely housekeeping in the home is not where the answer really is.

25 A. Oh, no, no. Not at all. But it might have some...it might have some implication for household cases of asbestosis.

DR. DUPRE: Was what you had in mind here, if you will permit me, Miss Jolley, as you go up your housekeeping scale, the frequency with which a household, for example, was swept...

THE WITNESS: Vacuumed or whatever.

DR. DUPRE: ...increase the amount of airborne fibers and therefore possible affect the dose that an individual may be exposed to?

30 THE WITNESS: Your logic is far better than some of the scientific researchers who had written in the medical

THE WITNESS: (cont'd.) literature prior to this,
Mr. Commissioner.

5 DR. DUPRE Maybe that's due to the summer course we
had last year.

MISS JOLLEY: Q. I would like to...my last question
is concerning public buildings as opposed to Johns-Manville, and my
understanding is that the department of health in the City of
10 Toronto has...well, I participated in a training course for
inspectors for them, and they are actually looking for asbestos
in restaurants and other buidlings that they are inspecting, as
a secondary kind of inspection function.

Are your inspectors doing that? Are they suggesting
that perhaps...

15 THE WITNESS: A. No.

Q. ...asbestos be...

A. To my knowledge, the City of Toronto health
inspectors are the only ones in the Province of Ontario, and
probably in the Dominion of Canada, and probably in North America,
who are doing that.

20 Q. Do you have any idea of the success or what
is happening out of that program?

A. No, none.

Q. Have you ever thought of investigating for...

A. No. I haven't got the money to do it.

25 Q. Okay. Thank you very much.

A. I was saying earlier that the City of Toronto
spends...in the last year they reported, 1980 or 1981, twenty-five
dollars per capita on public health. The rest of Metropolitan
Toronto spends about twelve dollars, plus or minus.

30 So the City of Toronto has got the money to spend on
these sort of things. The rest of Metro hasn't.

DR. DUPRE: Mr. Lederer?

MR. LEDERER: Thank you, sir. I'll be extremely brief.

5
CROSS-EXAMINATION BY MR. LEDERER

10 Q. Dr. Fitzgerald, I'm just a little confused about some of your comments to Mr. Laskin concerning the five year repeat of your survey, and you indicated...when he first asked you the question, you indicated that the matter had gone to the ministry and you jumped rather quickly from there into something else without seemingly, at least to me, seemingly dealing with it, and then you said later that the ministry had tentatively given you the go ahead, and I think you said at another time that it had been 'stuck' in the ministry for a year.

15 It's my understanding that you have received the approval of the Ministry of Health to go on with this five year review if you determine that you wish to do it, is that correct?

20 A. That's correct, with this proviso, that we have written back to them saying that since we don't seem to be able to get anywhere - people have moved, the work force in Johns-Manville has declined so remarkably - these and various other reasons, we see no point in pursuing it.

So in effect, we are turning off the green light ourselves.

Q. I understand.

25 A. But it took a year or so, plus or minus, for the green light to come on.

Q. From the ministry?

A. From the ministry.

Q. I understand.

30 The only other question that I have to ask you relates to Mr. Laskin's last line of questioning. It concerns the publication or your efforts to have this survey published, and I

5 Q. (cont'd.) don't want you to in anyway think that I mean this in any kind of an insulting way, but I'm a little bit curious. Would I be right, if I were to say that one of the reasons why the various publications to which you submitted this article did not publish it is because they were concerned about the quality of the results?

10 A. No, there was certainly no indication of that. The Canadian Medical Association journal just flatly said that it wasn't the type of article that they were interested in publishing. I have forgotten whether they suggested the Public Health journal or not. In any case, I went to it myself and the reviewer's comments there were...I can only best describe them as nitpicking. They were changing a construction here...but not changing the content at all, they had no adverse comments on the contents.

15 Q. Or as to your methodology?

A. No, none.

20 Q. Would I be right in saying, then, when you talk of petty corrections, we are talking in the area of grammatical changes, sentence structure, that sort of thing?

A. Yes, and they wanted me to rework a couple of the tables and this sort of thing.

25 Q. I understand.

A. But I guess it's just my nature - I lost interest, I had gone on to other things. There's all manner of things that one can do in public health, and if it's something of this nature, as cold as that, with me anyway, it remains cold. Now with somebody else who had done it, they pick up the challenge and do it. But not Fitzgerald, I'm afraid.

30 MR. LEDERER: Thank you very much, Dr. Fitzgerald.
Thank you, Mr. Chairman.

DR. DUPRE: Mr. Patterson?

MR. PATTERSON: No, I'm not officially here.

DR. DUPRE: Dr. Uffen?

DR. UFFEN: Yes, if I could just clear up a couple
5 of things.

When you got approval from the ministry, did that
include the funding of it or did you have to find the funding
for it?

THE WITNESS: That was the funding...I'm trying to
remember...it was something in the order of ten, eleven thousand
10 dollars they funded in 1975/76, and we ended up spending eight
thousand, nine thousand dollars of it. We turned back money to
them.

DR. UFFEN: Oh, so funding wasn't the problem?

THE WITNESS: No.

DR. UFFEN: They didn't say, 'you've got approval,
15 but find out how to do it'?

THE WITNESS: No.

DR. UFFEN: Another thing I would like to make sure
I understand clearly is, when you did the first survey I remember
you said earlier on that you had good co-operation from both the
20 union and from the plant. You remembered the name of the union
man, but couldn't remember the name of the plant manager.

Then later in your testimony, when you were talking
about either redoing it after five years or something else, I'm
not clear, was it at that stage that you said you started to have
difficulty getting the necessary records?

THE WITNESS: When we decided to go and ask for
approval for the second five-year study, one of the things that
we did, we went out to Johns-Manville...I'm pretty sure my
associate went with me, I can't recall the details, and I spoke
once again to a group of, oh, six or seven Johns-Manville people,
25 including Herman Melinkoff, who was then...he was superintendent,
30 manager, whatever his title was...and they brought Charlie Neilson

5 THE WITNESS: (cont'd.) in as well. They were...all sides, management and union...were quite willing to co-operate with this second year study, but they apologized that the difficulty I would have this time is the names of the workers were no longer available to them at the Toronto plant. I would have to get this from Colorado...they in turn would go to Colorado and ask for help in providing me with the next five years' worth of peoples' names.

10 I already had the people who had been employed prior to 1955. What I needed was the people who had commenced employment between 1955 and 1960. Those were only available from Colorado, as it turned out, but the Toronto people were willing to help.

15 DR. UFFEN: They were unable to?

THE WITNESS: They were unable to because they didn't have the information in Toronto, they would go to Colorado to get it, it was never forthcoming.

20 DR. UFFEN: Did they communicate this to you orally, or have you got a letter or anything telling you about the difficulties and the reasons why?

THE WITNESS: No, we ended up corresponding directly with Colorado, from the health department. We didn't have to go through Johns-Manville Toronto plant, and we never got...

25 DR. UFFEN: You ended up doing it that way, but do you have any record of the Toronto plant efforts to help you and their reasons for not being successful? Would that be on record anywhere?

30 THE WITNESS: All I know is that they were...verbally, at a meeting at the Johns-Manville plant, they indicated to us that they would be most co-operative and helpful. I have no reason to believe that they weren't, that they wrote to Colorado, it wasn't forthcoming. We got the name of the contact in Colorado

5 THE WITNESS: (cont'd.) ourselves and we therefore started corresponding and telephoning them directly, rather than going through the Johns-Manville plant.

DR. UFFEN: Would you have a record of your efforts with the people in Colorado?

THE WITNESS: We certainly probably would have copies of our letters of 1980 or 1981.

10 DR. UFFEN: Could you make those available to us?

THE WITNESS: Can do.

DR. MUSTARD: Including the correspondence from Johns-Manville.

15 DR. UFFEN: Yes. If you wouldn't mind, your letters and the responses that you received from them, and the date was about 1981, did you say?

THE WITNESS: I would say it would be 1981, at some point.

DR. UFFEN: I just...have you noted the request?

MR. LASKIN: Yes.

20 DR. UFFEN: Do you remember now...I forget the detail...but do you remember the reasons, again, why in Colorado you weren't...what reasons were given that they couldn't give you what they needed?

25 THE WITNESS: We weren't given any reasons. If I remember correctly, we were told that all this would be forthcoming within...I don't know what it was...a reasonable period of time, two weeks, six weeks, whatever, and more time than that went by and finally we contacted them again. Oh, yes, they would get onto it. It never happened, so we just gave up.

DR. DUPRE: Could I just follow up with the line of questioning Dr. Uffen opened up, if I might?

30 Let's go back to the first episode - that is to say, the one in which you were successful. Now, as I take it from

5 DR. DUPRE: (cont'd.) your paper, the company and the union local co-operated in compiling lists of names and addresses of all current employees who met the criteria, having commenced work at the plant prior to December 31, 1955.

Now, could I ask you this? Were the names of these employees communicated to you by the Johns-Manville plant in Scarborough?

10 THE WITNESS: Oh, yes, because they had those.

DR. DUPRE: They were communicated to you directly by the plant in Scarborough?

THE WITNESS: They held all those records themselves at that time.

15 DR. DUPRE: This would have been over the signature of the plant manager?

20 THE WITNESS: Yes, it would be, but I think also Charlie Neilson and the union were involved to a certain extent, because certainly they had to become involved subsequently because we had a mail strike at that time, and when we wanted to contact these individual employees - a hundred and eight or whatever it was - we couldn't do it by mail, even though we had their address. So we arranged with Charlie Neilson to deliver the letters to his office at the Johns-Manville plant and he would see that they were hand-delivered to the employees, and that's how we got around the mail strike.

25 DR. DUPRE: But just to make sure I have one thing very straight. The names of the employees and their addresses had been communicated to you directly by the plant manager?

THE WITNESS: As far as I'm concerned that's how they came, yes. I think they are the only ones...the union, I don't think, would have that information.

30 DR. DUPRE: If you are going to be kind enough to comply with Dr. Uffen's request, I think it would be useful if

5 DR. DUPRE: (cont'd.) you could include in your search of the files the covering letter that accompanied the names that were submitted to you.

THE WITNESS: Back in 1975?

DR. DUPRE: Yes. Do you think that would be possible?

THE WITNESS: I doubt if we would still have it.

10 DR. DUPRE: Well, I wouldn't put you...don't go to extremes for us, but if it were to come your way, that would be of use.

15 THE WITNESS: I might say, Mr. Chairman, too, that in 1975, from Colorado, we got literally thousands of names of former employees who had been employed by Johns-Manville prior to December, 1955, but who were no longer employed with them - who had only worked with them a short period of time.

DR. DUPRE: Now these names you say...

THE WITNESS: So, we got co-operation...

20 DR. DUPRE: ...these names you say, in 1975, this is...

THE WITNESS: In 1955.

DR. DUPRE: In...oh. Okay. Let me just scratch that question and reformulate it.

25 I take it, Dr. Fitzgerald, that the names and addresses of all current employees - I'm quoting from your paper here - who met the criteria of having commenced work at the plant prior to December 31, 1955, can I take it that the names and addresses of all those then-current employees were communicated to you directly by the Scarborough plant?

THE WITNESS: That's right.

30 DR. DUPRE: Now, you mentioned that you also got some names, at the same period of time, from Colorado?

THE WITNESS: That's right.

DR. DUPRE: These were names exclusively...names and addresses, exclusively, of past employees?

THE WITNESS: That's right, because the Toronto plant didn't hold such records.

DR. DUPRE: The Toronto plant, at that time, only held the records of...

THE WITNESS: Of current employees.

DR. DUPRE: Of current employees. Okay.

Now, if I may just turn the clock ahead to 1981 or 1980, I take it that it's in 1980 that you were told by the plant to address your request this time to Colorado, is that correct?

THE WITNESS: No. If my memory serves me correctly, the Toronto plant were going to co-operate by making my request for the people who were employed from the 31st of December, 1960, back to 1955, they were going to make the request for me to Colorado, for that information.

As I have explained, through subsequent events this never came about. I certainly had the co-operation of the Toronto plant people and the unions...certainly at our face-to-face meeting.

DR. DUPRE: I understand.

In 1980, is it correct that what you were then soliciting was the list of names and addresses of current employees who had commenced work at the plant prior to December 31, 1960?

THE WITNESS: That's right. Plus some of those...

DR. DUPRE: Plus some past employees?

THE WITNESS: Plus some past employees.

DR. DUPRE: Now, let's...

THE WITNESS: Particularly because there had been quite a layoff of staff. The plant had suddenly gone...from whatever period of time...had gone from seven hundred workers down

THE WITNESS: (cont'd.) to a hundred and fifty.

They apologized that they didn't have records for those who had fairly recently been laid off - that these were down in Colorado, and I said fine, then we'll get them from Colorado.

DR. DUPRE: Okay.

Now, as to those, though...and it would have been a smaller group as your testimony makes it clear...as to those who were still current employees, would the plant have had those records?

THE WITNESS: Yes, they would. But the numbers, as you have already identified yourself, were so small in comparison with having got a hundred and eight out of seven hundred and fifty in 1975, if we..we would probably only get twenty or so. As a matter of fact, the layoffs had been...if I remember correctly... the layoffs had been mainly in those who had been with the plant, in the employ of Johns-Manville the longest, so we were going to get precious few out of the current employees, but we would get a reasonable number out of recently retired people.

But those records were in Colorado.

DR. DUPRE: I see.

Now, of that admittedly small number of current employees, was the plant ready to give you those names and addresses?

THE WITNESS: Oh, yes. Yes.

DR. DUPRE: Did they give them to you?

THE WITNESS: No, we never went back for them because we never got the other list.

DR. DUPRE: Were you at any time, say either in 1975 or 1980, ever made aware of any policies that the company had with respect to whether access to employee records for research purposes, whether these employees were current or past,

DR. DUPRE: (cont'd.) had to go to Denver as opposed to being solicited from the local plant?

5 Were you ever made aware that the company had that policy?

THE WITNESS: I was not made aware of it, no.

DR. DUPRE: All right.

DR. UFFEN: Did you ask for anything unusual? Like, you asked for their name and address because you wanted to track them down. Did you ask for anything beyond that, medical...?

10 THE WITNESS: No. As a matter of fact...well, we wanted the date they commenced employment, but the data...I was absolutely shocked when I got these records in 1975 from Colorado, because what they photocopied was some sort of a record which gave their hourly rate of pay and how it progressed upwards over a period of time, but obviously this was on a sheet, a particular form, and they had to photocopy the whole form.

15 There was more information on it than I ever needed. I didn't need their rates of pay and so on, and of course I treated that very confidentially because it was information that I didn't need and possibly shouldn't have been given to me.

20 DR. UFFEN: Would it have been clear to the people in Denver that you were making your request in your capacity of a qualified medical practitioner with public responsibility? Would your letterhead show that you were legitimate?

25 THE WITNESS: Well, it would have been explained to them why I wanted it - I was doing this survey, and it was hoped to go on to former employees. But that aspect...and therefore they obliged me by giving me information on their former employees.

30 DR. UFFEN: I mean the more recent efforts that failed.

THE WITNESS: Yes.

5 DR. UFFEN: It would have been...oh, well, did your colleague, your medical colleague, did she also write separately from you with, say it was a different letterhead?

THE WITNESS: Well, the same letterhead, but...

DR. UFFEN: The same letterhead, but different identification?

10 THE WITNESS: Yes. And she was the one who also spoke to this physician in Colorado, too, on the phone.

DR. UFFEN: Would she have done more of it, perhaps, than you did? Would it have appeared to be her project rather than yours?

THE WITNESS: It could very well have.

15 DR. UFFEN: Are her qualifications and experience significantly different than yours? For example, is she twenty years younger, or...?

20 THE WITNESS: Oh, she's twenty years younger. She is a far brighter person than I. She is a gold medalist at U of T. She is a researcher by inclination and has done a fair amount of research.

DR. UFFEN: Would she have a respectable publication record, then, in the journals?

THE WITNESS: Oh, well...

25 DR. UFFEN: The kind that would be part of the club and the...

THE WITNESS: No, no. Her research had been done in the immediate...just prior to graduation from medicine, and postgraduate.

DR. UFFEN: What field?

30 THE WITNESS: Medical research. Liver and kidney research.

DR. UFFEN: Obviously I have been trying to search

5 DR. UFFEN: (cont'd.) for reasons that you might have got back a letter where they didn't recognize you as a legitimate request.

THE WITNESS: No, they gave us every indication that they were going to co-operate with us, but they didn't.

10 DR. UFFEN: One final thing. How long had this been...did you...I'll put it another way. Did you ever write and tell them 'forget it, we have canned the whole project'?

THE WITNESS: I don't recall if we have or not. We certainly did that back to the Ministry of Health, saying we are getting nowhere, we are not getting the co-operation, end of subject.

15 DR. UFFEN: I'll work that over.

DR. DUPRE: Dr. Mustard?

20 DR. MUSTARD: I just have a couple of questions to ask you. One of them relates to your paper on page eight or nine, which is...actually page seven, second paragraph...you talk about a hundred and eight index employees, of which you tracked eighty-two of the conjugal contacts, and you used the phrase 'spousal death' in the fourth line and I'm curious to know how many of the twenty or so people that you did not track, twenty-six people you did not track, had actually died.

25 THE WITNESS: I can't answer that, Dr. Mustard. You must appreciate that the figure a hundred and eight is the total number of employees who met the criteria, and when we wrote letters to those hundred and eight people asking them to volunteer their families for the survey, that some...whatever the figure is... eighty-two or eighty-six of the hundred and eight volunteered their families. The others were not interested or their spouses had died or they had recently remarried.

30 As a matter of fact it became...if I may make an aside here...it became almost a social study when you found out the

THE WITNESS: (cont'd.) various things that had happened to some of those hundred and eight people.

5 DR. MUSTARD: I was just curious. This is not any scientific judgement, but if five of those responses were because a spouse had died and the ages were still comparatively young, and those deaths were due to cancer, I would be curious about the potential implications of that.

10 So could you just...obviously you don't have any information on that.

THE WITNESS: No. Whatever the figure is - say it's twenty of these employees...just did not volunteer their families or their families did not exist, and they didn't tell us why.

15 DR. MUSTARD: Okay, so that's an assumption of yours, because they really didn't tell you?

THE WITNESS: Yes.

DR. MUSTARD: Okay.

20 THE WITNESS: But some of them didn't want anything to do with it, they didn't want to worry their families, etc.

25 DR. MUSTARD: Now, let me ask a second question which is getting at this survey and the question of surveillance is such a...the Ministry of Labour still has a file on the Johns-Manville employees, as I understand it, who have been exposed. It's our understanding that there is a file that is maintained on them.

30 That file should be accessible to you, and would that not have...I don't know what the information is within that file, but wouldn't that be another way of accessing the names of people that you could follow up on? Did you explore that possibility at all?

THE WITNESS: No.

DR. MUSTARD: Was that brought to your attention by anybody?

5 THE WITNESS: No. I never even...never knew such a thing existed.

I didn't expect much in the way of help from either the Ministry of Health or the Ministry of Labour, because back in 1975, I'm trying to remember the physician who was with the chest disease service at that time - he has since died.

10 He had a tremendous amount of information about Johns-Manville, but he kept it all in his head, and when I went to him to ask him for some help in this, he didn't have any records.

15 I can't think of his name now. So it never occurred to me in 1980 or 1981 that the ministries would have any records that would be of any help to me.

20 DR. MUSTARD: Well, I'm not sure whether one is curious to follow this further, but I guess in view of the initial interest you had in this it might be feasible through the Ministry of Labour's records and cross-linking data information to simply go through the registry of deaths and check the deaths of mates in this area using Ontario's own information system.

I just raise that as a question, that being as it's public health in things like this, whether you may want to explore a bit further the possibility of the Ministry of Labour...

25 THE WITNESS: Deaths of the employees or deaths of the spouses of the employees?

DR. MUSTARD: Spouses.

THE WITNESS: And I would go through...?

30 DR. MUSTARD: No, no. But I say if you were interested in pursuing that, that would seem to be that is a possibility that could be looked at, or if you thought this was a study worth further pursuing you might also want to talk sometime

DR. MUSTARD: (cont'd.) to the Ministry of Labour.

THE WITNESS: One of my hobbies is geneology, and I can assure you that when it comes to trying to track down a vital record such as a death or a marriage I can pursue it as good as anyone, but it sure takes time just to find one.

To find out the deaths of these people, when you don't even necessarily know names, would be pretty difficult.

DR. MUSTARD: Yes, I'm sure it would be.

Can I ask you another question? Did the Ministry of Health not have a registry of these people at the time when you were contacting them in 1975?

THE WITNESS: If they did, they didn't volunteer it.

DR. MUSTARD: I see. Thank you.

DR. DUPRE: I just have one area of questioning which is actually going to take us out of the study that you did and, if you don't mind, permit me to ask you if you have any insights to share with us with respect to the role of local departments of health in the regulation of asbestos.

Just by way of background, Dr. Fitzgerald, a year ago last February at our first general set of hearings, we received a submission from the Toronto board of health, and it was Ms. Liv Ellinson from the health advocacy unit of the Toronto department who appeared before us, accompanied by Mr. James Flaherty of the food control and sanitation division.

Now, the purpose of the brief that was given to us of course was to alert us to the fact that the, of course, Public Health Act was under review, and in particular to bring to our attention the fact that the current Public Health Act basically permits local departments to become involved in health matters, of which asbestos might be a particular example, only through the so-called nuisance section of the current Act.

5 DR. DUPRE: (cont'd.) What was brought to our attention is the possible desirability of amending the Act, which is under still, as I gather, comprehensive review...

THE WITNESS: No, it has been tabled. The new Health Protection Act has received first reading.

DR. DUPRE: So it has not even hit the second reading stage?

10 THE WITNESS: No, it will go to committee stage the 7th of September.

DR. DUPRE: Okay.

15 Anyway, the representation made to us was about the extent to which it might be desirable to make it easier for local departments to become involved in inspecting for asbestos and other things in public buildings if the current Act was amended so that asbestos would be designated as an area where the minister might make regulations.

Do you have any views on this at all?

20 THE WITNESS: I think one of the things that you have to understand about Metropolitan Toronto as opposed to the rest of the Province of Ontario is that public health, until 1978 or 1979, was funded, twenty-five cents on the dollar came from the Ministry of Health for public health in Metropolitan Toronto, and seventy-five percent came from the local taxpayer, ratepayer. Whereas the reverse was true in the rest of the province, by and large, with a couple of exceptions.

25 So that up in Owen Sound or Ottawa or somewhere, they got seventy-five cents on the dollar from Queen's Park for public health, and twenty-five percent came from the local ratepayers.

30 There is no way, in Metropolitan Toronto, that the concentration of industry that local boards of health...even the City of Toronto with their funding, could take on the cost of industrial health using the bulk of their money which is still

5 THE WITNESS: (cont'd.) sixty percent coming from the local ratepayer in Metropolitan Toronto, it's changed since 1970/79...there is no way they could take it on.

Nor is there the trained people to take it on - both from the physician level...I'm certainly not trained to this level...or at the technician level.

10 In all the discussions that have gone on in the last few years about the new Health Protection Act, and more particularly in the last few months, at the society level of medical officers of health - and I'll be meeting next week on this same subject - at no point do I recall anyone mentioning the application of industrial medicine, industrial health as it applies to this new Health Protection Act.

15 We have been looking at various other aspects of the Act. I must confess we have been a bit remiss in not seeing if industrial medicine has a part...if there is something said about industrial medicine, industrial health, in the Act.

20 But my recollection is there is not a thing in there about it.

25 DR. DUPRE: Outside of the domain of what might be called industrial medicine, and in the domain of possible hazards from exposure to asbestos in public buildings, do you see there a role for local departments of health in inspecting for asbestos in public buildings, or is this something better left to the province?

30 THE WITNESS: If it could be proven, and possibly your Commission will be able to make a pronouncement on this, if it can be proven that people in this building are at greater risk from asbestos exposure than the people who are outside walking on the sidewalk, and that there is something to be done for that, yes, I can see that becoming a role.

5 THE WITNESS: (cont'd.) But I have yet to be convinced that the asbestos in this building...and undoubtedly there is some...is any greater risk than the asbestos that is being breathed in by the people on the corner of Bay and College, and indeed if you were to remove the asbestos from this building I don't know that you would improve the situation.

10 Now maybe you can tell me with the expertise that you had given in testimony that such an improvement is possible. I know at the time the Johns-Manville environment question came up and we got our initial readings - I think it was 1974 or 1975 - I said what have I got to compare these with. 'Have you got something for the rest of Ontario'?

15 They said, 'no, we haven't'. I said, well, I think it's about time you got something from Bay and Bloor, from the subways of the city of Toronto, from Coboconk, from Windsor, from Ottawa, from Cornwall.

20 So the Ministry of the Environment thought this was a great idea, and they did do such a survey. Then when they compared the results that they found around the Johns-Manville plant they found they were no different - no particular significant difference - in what there was elsewhere in the province of Ontario. And this was the first time this had been done.

25 I'm quite impressed with the fact that in the States where they have cleared out the asbestos out of some of the school buildings that the readings that they have found before the cleanout and the readings after the cleanout are no different, and in some cases they are higher, and there is no difference in the ambient environmental air.

30 DR. UFFEN: You mentioned an association of medical officers of health, I believe. In your areas of responsibility is there any generally-accepted set of priorities of what are the major public health problems of the world, or of

5 DR. UFFEN: (cont'd.) Ontario, and if there is such a scale, where would asbestos exposure be in such a set of priorities?

THE WITNESS: The organization is known as the Society of Medical Officers of Health of Ontario. I am the vice-president and I am the incoming president next year...this year, this fall.

10 I can only speak for myself. I don't think it ranks very high in the eyes of the majority of the medical officers of health.

DR. UFFEN: Third or fourth or a hundred...?

THE WITNESS: Oh, I would say more a hundred and third or fourth.

15 It might be lumped in under the general heading environment, which might be third, fourth or fifth. But as a specific item, asbestos, it would be fairly low down.

20 DR. MUSTARD: Can I just follow up that question? Do you have, as a group, a view about hazardous substances and cancer? Do you have a list of priorities of what you think the factors contributing to cancer are?

THE WITNESS: I've never heard it discussed, Dr. Mustard. There is a meeting being organized by one of our group on hazards of drinking water emanating from Lake Ontario, which is to take place in the next month or so.

25 But generally speaking, we don't...environmental matters and industrial health matters are things that have really only begun to concern public health physicians in the last few years. They are basically very ill-trained in these areas. I am sure you are aware of that.

DR. DUPRE: Other questions, counsel?

30 MR. LASKIN: No, thank you, Mr. Chairman.

DR. DUPRE: Dr. Fitzgerald, may I thank you very much indeed for coming to us this afternoon. Thank you.

MR. LASKIN: Thank you, Doctor.

May I suggest, Mr. Chairman, that we commence at nine-thirty tomorrow morning?

DR. DUPRE: It has been suggested that we commence at nine-thirty tomorrow morning. Are there any overwhelming objections?

That being the case, counsel, we shall then rise until nine-thirty tomorrow morning.

I suppose our witness will be informed of the fact that we are not starting until nine-thirty?

MR. LASKIN: That's the reason we are not starting until then.

THE INQUIRY ADJOURNED

THE FOREGOING WAS PREPARED
FROM THE TAPED RECORDINGS
OF THE INQUIRY PROCEEDINGS

EDWINA MACHT

